Resources of the future

The resources of the future include forestry, mining and oil and gas—natural endowments that add to the richness of our country. These industries represent a key pillar of our current economy, as well as an immense growth opportunity. As we focus on addressing the impacts of COVID-19, we have an opportunity to take actions to ensure that the full potential of these sectors can be leveraged to benefit the Canadian economy now and in the future. This is why we have proposed actions to tackle immediate challenges facing the sectors and have proposed further actions toward reimagining our economy.

Of Canada's resources of the future, oil and gas have been particularly hard hit by COVID-19. This sub-sector, which is responsible for 11% of GDP (excluding impacts of capital investment), was already facing issues related to reduced investor confidence in Canada prior to the onset of the pandemic. While investment in upstream oil and gas activities (e.g., exploring, drilling, extraction) had been increasing globally, it was declining in Canada. The pandemic exacerbated investment declines. Oil producers responded to the current situation by cutting capital spending budgets, including for green house gas (GHG) reducing projects, cancelling future investment, project development, curtailing production, and shutting down facilities. Oil and gas job losses are expected to be high and to continue to 2021.[26] This is expected to impact the broader economy as the sector has the highest multiplier effect on broader employment.[27]

Oil and gas is the largest contributor to Canada's trade.[28] Given this, recovery in the sector is a crucial component of the nation's overall economic recovery. Government liquidity and credit measures will be required to help the sector survive and stabilize in the short term. It will also need support for the sustainable transformation required for the industry's long-term viability and global competitiveness. Prior to COVID-19, the sector was positioned to play a critical role in the transition to a low-carbon energy future both through R&D in low-carbon solutions, and by providing significant revenues to the Government for reinvestment in the transition towards net-zero emission targets. According to the Canadian Association of Petroleum Producers, the oil and gas sector accounts for 75% of all clean technology investment in Canada.[29]

Recovery in the sector will depend on the industry's ability to de-risk and incentivize capital investments to generate activity, which has a ripple effect on other Canadian industries. This means providing incentives to reignite spending for large scale projects that stimulate growth, reduce GHG emissions and lay the groundwork for energy and resource efforts. These projects include sustaining production, diversification into petrochemicals, hydrogen, liquified natural gas (LNG), and environmental technologies (e.g., carbon capture, utilization, and storage (CCUS)).

The sector will also require liquidity support until activity resumes. This is especially important for some, like oilfield service firms, who may be unable to access existing support due to lower revenue profiles and high debt levels. Other recovery factors for oil and gas include the continuity of supply chains, market access, agile and effective regulations, global competitiveness and investment, and adoption of innovations to drive environmental performance.

26 Industry Strategy Council Submission – Canadian Association of Petroleum Producers (CAPP) ISC submission on impacts of COVID-19
27 Statistics Canada – Statistics Canada Table: 36-10-0013-01 (Accessed October 2020)
28 Statistics Canada – Statistics Canada Table: 12-10-0121-01 (Accessed October 2020)
29 Context Energy Examined – https://context.capp.ca/energy-matters/2019/dyk_oil-and-gas-is-largest-spender-on-clean-tech-in-canada#:~:text=According%20to%20a%20study%2C%20Canadian,oil%20and%20natural%20gas%20industry.&text=The%20investments%20are%20being%20used,water%20use%20and%20land%20disturbance (Accessed October 2020)

CASE STUDY: What a global comparator is doing for the resources sector

- **Norway** – Launched a COVID-19 relief package for the oil and gas sector, which included plans to postpone tax payments (US$10.8B) for oil and gas companies. Norwegian companies hit by low crude prices lobbied the government for additional action, which resulted in additional terms that would shield a greater portion of sector incomes from taxes, potentially saving jobs at oil companies and in the industry.[30]

Taking action:

3. **Provide additional incentives for upstream operators** to sustain long-term viable operations and to reignite their capital expenditures with consideration to long-term ESG/resource objectives and ensure existing business credit programs provide bridge funding to long-term viable producers and service operators until investments resume.

What we heard

- "Liquidity pressures are impacting continued investments into oil extraction and drilling projects that are already underway. These projects should not face stoppages as sunk costs will be high."
  – Oil and gas executive
- "What we're finding is it's hard to tell which sectors are going to feel the most pain because nobody is in arrears, due to postponement of payments and liquidity measures. As time goes on, we'll have more data about which sectors and demographics have been hardest hit."
  – Investment firm

30 Reuters – https://ca.reuters.com/article/idUSKBN23F1NV (Accessed October 2020)

Tourism, hospitality, and culture

The tourism sector was performing well pre-pandemic with three consecutive years of record-breaking growth and high expectations for 2020.[31] The pandemic immediately affected businesses of all sizes in this sector due to the closure of borders to non-essential travel and a steep decline in air transit. Public health restrictions also limited options for large gatherings. The summer season, representing 60% of annual tourism revenues was mostly lost, paralyzing operators, businesses, hotels and festivals across the country. As a result, 80% of businesses in the sector are considered at risk.[32]

While some local and domestic consumer spending is expected to return as the economy reopens, continued restrictions on travel and large gatherings are anticipated to impact short-term revenue and employment. Some of these firms may be successful in transitioning to new operating models (e.g., online sales, increased proportion of local clientele). However, extended restrictions and resurgences of COVID-19 will pose ongoing challenges for most firms, particularly those that are heavily dependent on seasonal travellers and large in-person gatherings for revenue, or those that offer niche products or services that cannot be delivered through alternative mechanisms.

A tough year and a long road ahead

Businesses in the tourism industry, and other sectoral SMEs alike, noted the struggle of keeping their doors open. They spoke to the challenge that the CERB presents; the CEWS being a good program but needing to be extended to address ongoing financial costs; and the rent program not being accessible due to the eligibility issues and the involvement of landlords. Given the urgency of necessary support, these views were shared as the Council conducted its work.

Recent announcements made by the government, highlight some of the changes made to improve these supports—CERB transition to EI, CEWS being extended, and changes to the rent program (now Canada Emergency Rent Subsidy).

Of course, the tourism industry is uniquely affected during COVID-19, which is why we have noted the need for more immediate attention to bridge to recovery.

Given this trajectory, at-risk businesses will need to have supports for restructuring and transformational changes. While the Government has set up broad-based programs of general application that have provided some support to the sector (e.g., the Canada Emergency Business Account loan, Canada Emergency Rent Subsidy and payment deferrals for commercial leases and operating licences in national parks, historic sites and marine conservation areas), these general programs alone will not be sufficient. Tourism-dependent local economies and regional and community tourism/hospitality anchors would also benefit from upticks in domestic travel and efforts to encourage activity in these communities.

31 Destination Canada – https://www.destinationcanada.com/en/news/canada-experiences-third-consecutive-record-breaking-year-tourism-2019#:~:text=Key%20highlights,(2018%3A%206.7%20million) (Accessed October 2020)

32 Industry Strategy Council – Small Medium Business Survey (June–July, n=726)

CASE STUDIES: What global comparators are doing for tourism[33]

- **Austria** – Tourism enterprises that had an active loan before the outbreak of the pandemic can apply to have all loan repayments suspended for 2020.
- **New Zealand** – Approved a specific package for Tourism New Zealand, part of which will be allocated to promote domestic tourism and to prepare promotion campaigns in targeted foreign markets.
- **Norway** – The Value Added Tax (VAT) on passenger transport, accommodation, cultural events and attractions has been reduced from 12% to 8% until October 31, 2020.

Taking action:

4. **Provide patient capital** to allow anchor firms with high brand-value and long-term business models (who have challenges accessing capital) to weather subdued demand and overcapacity in the medium term, particularly where smaller communities are disproportionately impacted.
5. **Collaborate with the private sector** to ensure sufficient restructuring and transformation funding is available—crowding in private capital at attractive rates and ensuring that entrepreneurs have the opportunity to transform their businesses in the wake of COVID-19.

What we heard

- "The sector needs patient capital. The priority should be saving the businesses we have, because if we allow them to go under, then we will have to do a lot more rebuilding."
  – CEO, tourism business
- "We need to restart domestic tourism in order to stabilize the sector, and then think about a safe restart of international travel. Other countries have adopted innovative ways to manage risks, like mandatory testing for all travellers entering the country and weekly tests for all hospitality workers."
  – CEO, tourism business
- "There is going to be a nuclear winter for tourism and hospitality businesses if we don't provide immediate relief. Businesses will be bankrupt by the fall."
  – CEO, tourism industry association
- "We have endured a tough year and it will take a long time to recover, and I fear this is only the beginning. We can't rehearse performances while socially distancing. What do we have to offer our sponsors, donors, subscribers and ticket holders if we aren't operating?"
  – Director, cultural association
- "The proposed Indigenous Infrastructure Fund is a public–private funding partnership opportunity that would bring Indigenous views to the capital markets."
  – CEO, clean energy

33 Source for all case studies: UNWTO – World Tourism Organization – https://webunwto.s3.eu-west-1.amazonaws.com/s3fs-public/2020-06/BFN_V4.pdf (Accessed October 2020)

RECOVER: SET A TRAJECTORY OF INCLUSIVE GROWTH

As part of the **Recover** stage, we see an opportunity to **tackle pre-existing challenges** laid bare by the pandemic. While these challenges are not new, they are pressing for Canada's growth now ever more. As part of its work, the Council considered many of the recommendations previously put forward to the Government, as well as existing federal programming currently in place to support industrial growth. Through building on these efforts, we see significant potential to accelerate our recovery.

RECOMMENDATION C: Reignite growth by doubling down on a future-oriented investment plan

Canada can unlock its potential and build a digital, sustainable and innovative economy by investing strategically and significantly in core foundations that benefit the economy as a whole. Key to Canada's competitiveness and future growth is our talent, technology and trade as well as an enabling environment that promotes innovation and ingenuity.

As such, we propose the following sector-agnostic measures: upskilling the workforce; driving innovation, commercialization, digitization and intellectual property (IP); improving access to capital so high growth firms can achieve scale; investing in strategic trade infrastructure for efficient global market access; investing in digital infrastructure, including high-speed Internet for rural small to medium enterprises (SMEs); eliminating regulatory barriers to unlock economic growth and investment; and leveraging procurement as a powerful tool to create demand and support priority areas.

These themes emerged in all our conversations with industry leaders about Canada's path to recovery and long-term growth. They are understood to be mutually reinforcing and interdependent and are essential to drive recovery and reignite growth. Previous private sector councils, mandated by the federal government, have also made recommendations related to these cross-cutting themes. Therefore, efforts already underway can be leveraged. Our consultations have also underlined the significance of doubling down on these horizontal themes.

THE ECONOMIC STRATEGY TABLES identified six signature initiatives in their September 2018 report, *The Innovation and Competitiveness Imperative, Seizing Opportunities for Growth*

1. **Own the podium:** More high-growth firms to anchor Canada's prosperity
2. **Agile regulations** that support economic growth
3. **Skills and talent:** Position Canadians for jobs of the future
4. **Technology adoption centres:** Drive technology adoption and leapfrog global competition
5. **Physical and digital infrastructure:** To connect Canadians and enable export growth
6. **Branding:** Telling the world what our innovative economy has to offer

CASE STUDIES: Examples of investments where global comparators are doubling down

- **France** launched a €15B liquidity/investment program with some specific future-oriented funding earmarked, including *Green Aerospace* and strategic acquisitions.[34]
- The **Netherlands** announced a €20B National Growth Fund to boost the country's future earning capacity and prosperity through investments in knowledge development, innovation and infrastructure (including physical, digital, and energy).[35]
- **Germany** announced a €130B stimulus package, including €50B for digital and sustainable initiatives to create a future-friendly Germany.[36]

SECTORAL CROSSWALK: Talent/skills strategy

COVID-19 has forever changed our view of "essential workers". Transit operators, grocery store cashiers, retail clerks, truck drivers, farmers and many others, joined health care workers and first responders on the front line to keep our economy moving and to keep Canadians safe. Despite a few noted and unique distinctions, the need for a cross-cutting talent and skills strategy and an economy-wide labour market response was identified across all sectors. The pace of change has highlighted the continued importance of bringing international talent to Canada, exacerbated current talent and labour gaps and has reinforced the need for reskilling and upskilling to meet demands in high-growth sectors.

Diversity, talent, and workforce innovation

During our engagement sessions with employers, unions and universities, it was clear that the pandemic has accelerated some employment trends and has led to a new set of workforce challenges. While some businesses struggle to keep workers employed during the COVID-19 pandemic, others are still working to fill vacancies and/or develop new skills within their workforce, as a result of adaptations such as changing business models and technology adoption.

This accelerated pace of change has made it clear that Canadians need opportunities to continuously access the latest training in support of new skills demands. To facilitate this, it would be beneficial to compare workers' current skill sets to the skill sets required for jobs in sectors with higher demand. Reskilling programs could then be targeted to providing the required skill sets. Where there are limits to what reskilling and training can achieve, positions may need to be filled through recruitment of global talent.

Diversity

The Council was also cautioned about the growing social inequities and disproportionate impact that the pandemic is having on underrepresented groups (e.g., women, youth, new Canadians and Indigenous peoples). Given that our hardest-hit sectors employ these groups disproportionately (e.g., youth in tourism and service sectors), a slower recovery could leave underrepresented groups even further behind. For example, COVID-19 saw women's participation in the workforce drop to 55% in April, for the first time in over 30 years, threatening to wipe out decades of progress on gender equality.[37] Although this has improved since April, women, youth and new Canadians are still lagging in their employment.

For Canada's recovery to be inclusive, we need to improve the potential for all workers to participate in the economy. Inclusiveness is not only a good thing for workers; it helps employers thrive. Ethnic and gender diversity are correlated with profitability, yet women and

34 Reuters – https://www.reuters.com/article/us-health-coronavirus-france-aerospace-idUSKBN23G0TB (Accessed October 2020)
35 Government of Netherlands – https://www.government.nl/government/the-government-s-plans-for-2021 (Accessed October 2020)
36 World Resources Institute – https://www.wri.org/blog/2020/07/germany-s-covid-19-stimulus-prioritizes-low-carbon-investments (Accessed October 2020)
37 RBC – https://thoughtleadership.rbc.com/pandemic-threatens-decades-of-womens-labour-force-gains/ (Accessed October 2020)

visible minorities remain underrepresented.[38] Going forward, Canada's workforce innovation strategy must place a strong focus on closing these gaps, and redeploy displaced and underemployed Canadians into industrial areas with strong growth trajectories and high demand for talent. By removing barriers and advancing gender equality in work, Canada could see an additional $150B in incremental GDP in 2026.[39]

SECTORAL CROSSWALK: Inclusive economic growth

COVID-19 has had a significant adverse impact on Indigenous businesses and communities. The pandemic has reinforced gaps in food security, health care, air service to remote areas, and digital connectivity. The resources and tourism and hospitality sectors are among the largest private sector employers of Indigenous peoples in Canada, and both have been hard-hit by COVID-19. Stronger partnerships with clean technology, digital, and health/bio-sciences and associated investments will drive economic development and public health outcomes.

Workforce innovation

Broader access to training and opportunities for employment in high-demand areas is one important approach to facilitating redeployment. Yet despite significant improvements in recent years, Canada continues to lag behind other OECD countries in upskilling its existing workforce. For example, Canadian organizations spend an average of 81 cents for every dollar spent by American organizations on learning and development.[40] In addition, the Advisory Council on Economic Growth indicated that the average amount an organization spent on investments in worker training fell by more than 40% between 1990 and 2010.[41] Additional training can provide employees with skills to build and scale the companies of the future, for example in the clean technology sector.

Historically, the largest training interventions have been implemented by provinces and territories, enabled in part by federal transfer programs. Federal leadership, in close partnership with provinces and territories and with industry, could help achieve improved coordination in the delivery of reskilling and employment opportunities that align with industry needs while meeting shared provincial and national priorities. Collaboration must also lead to smarter training infrastructure and digital learning models that make navigating career pathways and talent pipelines easier for employers and employees.

Labour market programming must provide Canadians the necessary support; however, it must also support and garner input from employers. When skills development measures are not developed in collaboration with employers, there is a risk that training solutions will not match their needs. Working closely with industry and demonstrating federal leadership will decrease this risk. Additionally, knowing that training is relevant to employers gives workers the confidence that investments in their own training will pay off and position them for good quality job opportunities.

Global talent

Finally, firms still struggling to access the talent required to support their growth spoke to the ongoing importance of bringing international talent to Canada. Canada tripled its international student population over the last decade[42] and, prior to COVID-19, ranked third in international student attraction.[43] Our consultations highlighted the benefits of international students studying in Canadian post-secondary institutions,

38 McKinsey & Company – https://www.mckinsey.com/~/media/mckinsey/business%20functions/organization/our%20insights/delivering%20through%20diversity/delivering-through-diversity_full-report.ashx (Accessed October 2020)
39 McKinsey & Company – https://www.mckinsey.com/featured-insights/gender-equality/the-power-of-parity-advancing-womens-equality-in-canada# (Accessed October 2020)
40 The Conference Board of Canada – https://www.conferenceboard.ca/e-library/abstract.aspx?did=9398 (Accessed October 2020)
41 Advisory Council on Economic Growth – https://www.budget.gc.ca/aceg-ccce/pdf/learning-nation-eng.pdf (Accessed October 2020)
42 The Globe and Mail – https://www.theglobeandmail.com/canada/article-how-the-world-came-to-cape-breton-university/ (Accessed October 2020)
43 CIC News – https://www.cicnews.com/2020/02/642000-international-students-canada-now-ranks-3rd-globally-in-foreign-student-attraction-0213763.html#gs.ionkkd (Accessed October 2020)

as well as the ongoing importance of onboarding experienced global talent. Figures from 2018 show that the majority of these students (60%) plan to apply to become new Canadians.[44] Those that do become permanent residents often pursue employment in areas critical to Canada's innovation capacity.

In addition to implementing programs announced in the Speech from the Throne, we should continue to leverage the Global Skills Strategy and the International Student Program, to attract the best and brightest in key areas where we face shortages, like engineers, software developers and C-suite executives. While COVID-19 has created some uncertainty about the future of economic immigration, now is not the time for Canada to forego its momentum in the fierce competition for global talent. Canada should continue to capitalize on the opportunity to retain and attract highly skilled workers, especially as other nations consider or implement new measures that prevent the entry of top talent.

SECTORAL CROSSWALK: Immigrants and new Canadians

In recent years, the growth of the Canadian labour force has been driven by immigration. While immigrant employment is critical for sustaining economic growth, this group lost employment at nearly twice the rate of their Canadian-born counterparts.[45] Women, youth, and recent immigrants have been hardest hit as they are overrepresented in sectors that were disproportionately impacted and slower to recover, such as tourism and hospitality, retail and the services sector.

Labour shortages are an ongoing concern for agricultural producers and the issue has been exacerbated by the pandemic. With some effort and financial assistance to producers, temporary foreign worker arrivals were between 85–90% of 2019 levels in the summer of 2020.[46] The modernization of the Temporary Foreign Worker (TFW) Program could be accelerated to address pre-existing labour shortages in the long term.

Canada also experienced a broad-based decline in immigration in the second quarter of 2020 as permanent resident arrivals dropped 67% from the same quarter of 2019 due to the pandemic.[47] High levels of immigration are required to support Canada's rapidly aging population, the growth of Canadian cities, Canada's post-secondary institutions, our innovation through the opportunity to draw on the world's best talent and to realize our goal of building a diverse, inclusive Canada.

Taking action:

1. **Expand scope and increase funding of reskilling programs** in partnership with provinces and territories to drive smarter digital learning models and infrastructure for future demands (e.g., supporting upskilling and reskilling to fill labour gaps).
2. **Capitalize on the opportunity to retain and attract highly skilled global talent**, particularly in digital and data areas, as other countries close/reduce access to work permits (e.g., retain recent STEM graduates, displaced H-1B visa holders, assist job placement for accompanying spouses).
3. **Develop a National Workforce Innovation Strategy** to develop a system of lifelong learning that is aligned with commercial needs, ensuring graduates are well positioned for jobs of the future, while closing the gender gap and advancing inclusion and diversity in the workforce (e.g., skills needed for Manufacturing 4.0, internships and dual programs, micro-credentials, and flexibility with online learning).

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44 Canadian Bureau for International Education – https://cbie.ca/infographic/ (Accessed October 2020)
45 Labour Market Information Council – https://lmic-cimt.ca/canadian-immigrants-and-covid-19-employment-impacts/ (Accessed October 2020)
46 AAFC analysis of Arrival of Agriculture and Agri-food Sector Temporary Foreign Workers (July 2020)
47 Royal Bank of Canada – https://thoughtleadership.rbc.com/the-canadian-dream-postponed-near-term-recovery-in-immigration-levels-is-unlikely/?utm_medium=referral&utm_source=economics&utm_campaign=special+report (Accessed October 2020)

What we heard

- "There is a pilot project through the US Chamber of Commerce in 30 states to create local employer collaboratives to bring together different businesses to determine skills needs at the community level to support local economy."
  – CEO, national business association
- "Young Canadians need to feel they have a future in Canada and that government cares about them. It is important that they feel that from businesses too."
  – President, national association of educational institutions
- "We have under-valued essential skills (literacy and numeracy), and we must invest more. To help workers still struggling with these skills, we need to do it in the workplace."
  – President, national labour association
- "The pandemic has created challenges with respect to work integrated learning especially for experiential learning programs, and especially where hours of practice are mandatory for certification purposes."
  – CEO, national association of educational institutions
- "We need to increase access to skilled talent for Canada's fastest-growing firms by creating a pipeline of recent STEM graduates into Canada's recovery fueling firms, and examining the opportunity for upskilling to plan for future labour needs."
  – National executive, innovation sector
- "My focus would be on employers and employees, for employers more incentives to keep employees in their jobs. We have been talking for years about reskilling. I'm not convinced we've actually done a lot in the private or sector. Reskilling will be needed in a way that matches with the productivity gap."
  – CEO, financial institution
- "We could create Centres of Excellence in IT to decrease congestion in big urban centres and bring high quality jobs to smaller communities."
  – Key industry leader, information technology Chair of the Board

Innovation ecosystem and R&D funding

Canada's business sector has long faced an innovation challenge, particularly in exploiting R&D and our ability to capture value from our intellectual property. This is consistent with our need to enhance our commercialization capacity in Canada. In recent years, the federal government has introduced a new suite of industrial tools and supports for businesses to enhance their growth and innovation capacity. Many of these are centred on a partnership approach, between government and private sector, or among stakeholders, to maximize resources and knowledge transfer, market expansion and commercialization.

In speaking with Canadian businesses, we heard about the success of many of these programs, as signaled by their over subscription in several regions of the country, prompting calls to expand programs such as the National Research Council's Industrial Research Assistance Program (IRAP). In other cases, we heard specific limitations and gaps in the existing programs that can be amended to better support innovation. For example, there were requests to remove existing employment caps, which prevent some medium-to-large-sized businesses from participating in programs such as IRAP.

More generally, businesses are also looking for more flexible support to enhance investments in areas such as intellectual property, digitization, and technology adoption. Existing programming could be reviewed,

where necessary, to encourage and incentivize Canadian businesses to invest in the "intangibles", which have the potential to generate better long-term value (e.g., in R&D, data and computing, digital services and operations, new designs and brands, and in workforce upskilling). Incentives for investments in these areas can be integrated into the existing suite of innovation programs, particularly as work advances on Canada's Intellectual Property Strategy and Digital Charter.

Federal programs provide early support to firms

The government offers early support to firms at the pre-commercialization stages via the National Research Council's Industrial Research Assistance Program (IRAP); support for companies to scale up via the Regional Development Agencies (RDAs), the Accelerated Growth Service and the Trade Commissioner Service; and additional funding and knowledge transfer driven by the Strategic Innovation Fund and the Innovation Superclusters Initiative, and the large-scale partnerships that they support.

Canada's innovation performance: An age-old tale

On the Conference Board of Canada's last Innovation Scorecard (2018), Canada fell from 9^{th} to 12^{th} place of 16 peer countries, as a result of stronger performance by a number of international peers, as well as our decline in R&D. Canada also continues to fall significantly behind in developing and capturing value from intellectual property, ranking 17^{th} on both the World Intellectual Property Organization's Global Innovation Index and on ICT-related patents among the OECD (down from 8^{th} from 2000–2012). Other indices also point to Canada lagging its OECD peers in innovation areas such as adoption of robotics (20^{th}) and e-commerce (21^{st}).

Taking action:

4. **De-risk and encourage industries to digitize, automate, and drive productivity** for SMEs and upper-middle companies (e.g., build on technology access centres; explore giving superclusters a mandate on technology adoption with increased focus on upper-middle companies; incentivize the private sector to invest in intangible assets and technology such as Manufacturing 4.0; improve digital adoption and service delivery within health care and education with an acute demand post-COVID-19; invest in software infrastructure projects).
5. **Continue to strengthen Canada's Digital Charter and IP Strategy, and build a modern digital regulatory system** to better manage, safeguard—which includes added enforcement capabilities to reduce data infringement—and commercialize our assets (e.g., guidelines on drone use, IP education, IP filing costs for SR&ED-eligible Canadian companies, micro-patent pools).
6. **Recapitalize, expand, and modernize key government programs** to stimulate immediate and longer-term private investments in innovation and R&D (e.g., the Strategic Innovation Fund (SIF), Sustainable Development Technology Canada (SDTC), SR&ED, incorporate technology adoption into the IRAP mandate).

What we heard

- "Reinforce the commercialization agenda by requiring universities and research institutions to have a plan for commercialization as a pre-condition to obtaining funding."
  – CEO, financial institution
- Develop an industrial ecosystem in which the critical materials sector can thrive, from harvesting raw material through to advanced manufacturing and exporting."
  – Industry leader
- "Leverage existing tools (SIF, NRC IRAP, Superclusters) to provide strategic capital for high-growth firms."
  – Industry leader
- "I look at clean tech, which was identified as a priority. With SDTC, there was funding available which moved it forward. Thoughtful policy and deployment of capital kick-started interesting companies."
  – Industry leader
- "The proposed Indigenous Infrastructure Fund is a public–private funding partnership opportunity that would bring Indigenous views to the capital markets."
  – CEO, clean energy
- "We have to stop confusing a science strategy or a jobs strategy with an innovation strategy. We built the country through deliberate action and building institutions (railroads, pensions, credit unions, grain cooperatives, etc.). If we are going to be ambitious, Canada needs to return to building its own great institutions."
  – Industry leader, information technology

Access to capital to accelerate growth of Canadian firms

To support businesses facing more protracted and slow recoveries, the federal government responded in record speed with unprecedented liquidity and capital supports (e.g., Canada Emergency Business Account (CEBA), Large Employer Emergency Financing Facility (LEEFF)). In its Speech from the Throne, the Government has committed to continuing the CEBA program and improving the Business Credit Availability Program (BCAP).

Throughout the pandemic, these measures have been critical to the survival of Canada's hardest-hit businesses. However, beyond survival, firms also need access to capital so they can invest in innovation and sustainable technologies, in new growth opportunities and in training to reskill their workers for the new digital economy.

Continued access to patient capital remains important for competitive firms with strong growth trajectories.

Expanding programs offered through Crown corporations—Business Development Bank of Canada (BDC), Export Development Canada (EDC), and Farm Credit Canada (FCC) can help Canadian business not only survive, but also thrive in this changing environment.

SECTORAL CROSSWALK:
Access to Capital

Each sector identified specific capital requirements to either stabilize, recover or grow the hardest-hit or highest-potential firms. These recommendations include, but are not limited to, targeted liquidity supports, patient capital, new financing models and the greater mobilization of private sector investment. Given the current uncertainty of the duration of COVID-19, access to capital will continue to shape our economic recovery, as well as our ability to seize new growth opportunities across all nine sectors.

Access to capital is a pre-condition to growth for all firms, regardless of size. Additional support is required to grow our high-performing SMEs and upper-middle companies that have the potential to become the next global leaders in their field. History has shown that when these companies are not able to access capital within Canada, they look to international investors. Leaders in the financial sector have suggested that leveraging private sector capital by creating patient capital growth funds, building up our venture capital industry and incenting investment in Canadian firms, and infrastructure projects will help companies scale up. Each of these measures will boost our economy's productivity and drive GDP growth and were echoed throughout our consultations. While improvements have been made in the venture capital industry, an extension of the BCAP program would allow further growth.

Finally, we know that the pandemic has had disproportionate impacts on some segments of the Canadian population. It is important that support reaches businesses owned by members of underrepresented groups, who have been more negatively affected by the pandemic. For instance, 91% of Indigenous-owned businesses reported being adversely impacted by COVID-19.[48] Women entrepreneurs, who are more likely to own newer and smaller businesses, had to lay off their employees (80%+) at higher rates than male-owned businesses.[49] For inclusive recovery that works for all Canadians, dedicated funds should be established to support entrepreneurship from diverse groups.

Taking action:

7. **Consider an expanded role for the financial Crown corporations—BDC, EDC and FCC—to support the relaunch of the economy** in partnership with the private sector and in alignment with the overarching strategy to boost productivity and innovation:
   - Direct the financial Crown corporations to move up the risk curve and to provide significant additional growth and scale-up capital to Canadian businesses.
   - Establish new special purpose funds to support business scale-up, including financing of the larger venture capital (VC) rounds that have proven elusive in Canada.
   - Direct these institutions to increase support to Canada's larger and most competitive businesses to help them "own the podium" (e.g., R&D investment in digital product innovation, investment to adopt latest technologies).
   - Cultivate sector-specific capabilities through strategic areas aligned with key industrial strategy priorities.

8. **Ensure capital gaps (e.g., women entrepreneurship funds, Indigenous community development funds, bio-science research funds) are addressed in partnership with the private sector**
   - Expand on existing diversity-oriented growth funds to increase access to capital and stimulate inclusive growth.
   - Expand proven partnership models on growth capital, including incentives to crowd in private capital and deepen investment expertise domestically (e.g., Venture Capital Catalyst Initiative (VCCI)).

48 Canadian Council for Aboriginal Businesses (CCAB) – https://www.ccab.com/wp-content/uploads/2020/06/COVID19-Indigenous-Business-Survey-KEY-FINDINGS-ENG.pdf (Accessed October 2020)

49 Women Entrepreneurship Knowledge Hub – https://wekh.ca/wp-content/uploads/2020/08/SOWE2020_PPT.pdf (Accessed October 2020)

What we heard

- "Create growth funds to stimulate consolidation and creation of major players."
  – CEO, pension fund
- "Canada has been called a cottage economy, good at creating medium-sized business but not scaling globally competitive firms. Venture capital and angel investment and creating a proper ecosystem for growth is critical."
  – CEO, national business association
- "Our challenge in growing Canadian companies into global champions is that we're lacking in risk-taking at the mid-market level. Companies are being sold at that level to international buyers."
  – CEO, pension fund
- "It drives me crazy to see companies bought internationally because we can't scale it up. It has to be through programming. Create a fund contributed to by all of us pension funds. Private sector program to have profit motivation."
  – CEO, pension fund

Strategic infrastructure – Digital and physical

Digital infrastructure

The pandemic has underscored the importance of reliable, secure and affordable digital infrastructure, as well as the risks associated with a growing digital divide in Canada. Approximately 60% of rural communities still do not have access to reliable, high-speed Internet, leaving businesses, consumers and important service providers behind.[50] Canada has a proud history of building great infrastructure—including completing what was at the time the world's longest railway across a sparsely populated country in 1885. Now, we can enhance Canadian success in the digital economy by accelerating access to high-quality Internet for all Canadians. In its Speech from the Throne, the Government committed to improving Canadians' access to virtual health care and to using digital technologies to make government services more accessible. Investing in digital infrastructure will improve our chances of connectivity for all Canadians and better access to these services. Digital infrastructure is much bigger than broadband, and we discuss this further in Recommendation D.

A $10B-infrastructure plan to create jobs and grow the economy

On October 1, 2020, the Government of Canada announced the three-year Canadian Infrastructure Bank Growth Plan, including $10B in infrastructure initiatives designed to help Canadians get back to work by creating approximately 60,000 jobs across the country. The plan will connect more Canadian households and businesses to high-speed Internet, strengthen Canadian agriculture, and help build a low carbon economy though five initiatives:

- $2.5B for clean power to support renewable generation and storage and to transmit clean electricity between provinces, territories, and regions, including to northern and Indigenous communities.
- $2B to connect approximately 750,000 homes and small businesses to broadband in underserved communities.
- $2B to invest in large-scale building retrofits to increase energy efficiency and help make communities more sustainable
- $1.5B for agriculture irrigation projects to help the agriculture sector enhance production, strengthen Canada's food security, and expand export opportunities.
- $1.5B to accelerate the adoption of zero-emission buses and charging infrastructure.

The plan is part of the Government's campaign, launched in the Speech from the Throne, to create over one million jobs to rebuild from the pandemic.

50 Government of Canada – https://www.ic.gc.ca/eic/site/139.nsf/eng/h_00002.html (Accessed October 2020)

Taking action:

9. **Accelerate plan to ensure coverage and access to high-quality Internet for 100% of Canadians by 2026**, in collaboration with the private sector and other levels of government.

What we heard

- "We see a huge surge in digitization, which has been accelerated by 5 to 10 years. Countries that can't digitize are going to get wiped out."
  – CEO, pension fund
- "Investments are also needed in digital infrastructure for learning such as simulators, augmented reality to simulate labs and hands on training"
  – CEO, national association of educational institutions
- "We've always been about two or three generations behind the rest of Canada in terms of digital infrastructure. It's time for us to have comparable options to other parts of the country. When new projects are undertaken, it should include all Canadians."
  – President, national Indigenous community association
- "Digital is the key component missing from the Canadian Infrastructure Bank."
  – CEO, digital industries
- "Communities in Northern Canada are still relying on satellite-based connectivity, they need updated digital infrastructure."
  – President, national Indigenous community association

Physical Infrastructure

During our conversations with Canadian business leaders, we heard about the future dividends of investing in physical infrastructure for our long-term growth. Canada could obtain higher market value for its resource endowment and be a more competitive supplier of innovative products to world markets, by strengthening our trade-enabling infrastructure. This includes our ports, railways, and world-class air hubs, which connect millions of people around the globe, move goods efficiently, and can support new jobs for Canadians, including underrepresented groups. We also heard about opportunities to expand our view on public–private partnership models and on the types of infrastructure projects that support Canada's industrial competitiveness and efforts to reduce GHG emissions, such as public transit, digital transportation networks, CCUS, and large-scale irrigation. Yet, Canada does not invest sufficiently in such strategic assets.

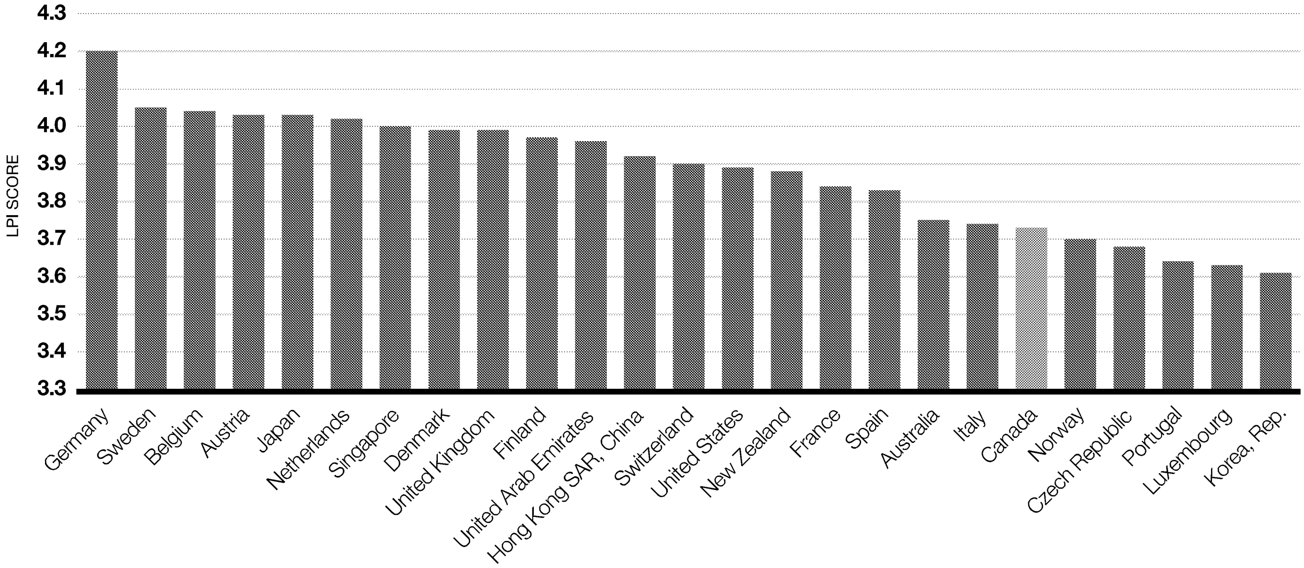
While large infrastructure project commitments have been made across all transportation modes, it has been estimated that Canada has a $150B-infrastructure gap.[51] Canada ranks 20th out of 36 OECD countries on the World Bank's Logistics Performance Index (2018).[52] This is an area of huge potential for Canada's recovery and reimagined future. With investments in infrastructure, we could reduce congestion, increase intermodality and improve trade flows. For example, Canada boasts access to deep water ports in three oceans, as well as the important St. Lawrence/Great Lakes corridor, which could be further leveraged with the right investments in infrastructure.

51 Business Council of Canada – https://thebusinesscouncil.ca/publications/cib-op-ed/ (Accessed October 2020

52 The World Bank – https://lpi.worldbank.org/international/global (Accessed October 2020)

Figure 7: World Bank Logistics Performance Index

(2018, Index = 1–5)



Source: World Bank, Aggregated LPI, 2018 (Accessed September 2020)

Transforming the future food economy requires intermodal global trade flows for bulk commodities and infrastructure that can support surge capacities in those flows for certain products (e.g., crops). Our current infrastructure creates bottlenecks and cannot effectively support surge capacity. By strategically investing in passenger/freight infrastructure and trade corridors, Canada can better position itself to attract private sector investment and compete in the economy of the future. This is something the Government has been working to address.

The Council also heard about opportunities to further develop Canada's trade network in the energy sector. This network (e.g., east-west electricity transmission and pipelines) would allow provinces to provide ESG-leading energy, including green energy.

CASE STUDIES: How global comparators are doubling down on infrastructure

- **China** announced over $440B in prospective infrastructure bonds for 2020, with cities and provinces increasing budgets to over $2T; both physical and digital (e.g., 5G, AI infrastructure).[53]
- The **UK** announced £609B in infrastructure spend between 2018–2028, with £190B to be invested in the next three years.[54]
- **Australia** has already committed AUS$180B in infrastructure over the next decade, with additional investments expected in its October federal budget.[55]

53 Nikkei Asia – https://asia.nikkei.com/Business/China-tech/China-bets-on-2tn-high-tech-infrastructure-plan-to-spark-economy (Accessed October 2020)

54 Infrastructure and Projects Authority – https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/759222/CCS207_CCS1118987248-001_National_Infrastructure_and_Construction_Pipeline_2018_Accessible.pdf (Accessed October 2020)

55 BNN Bloomberg – https://www.bnnbloomberg.ca/morrison-plans-a-1-5-billion-boost-for-australian-infrastructure-1.1450303#:~:text=The%20government%20has%20already%20committed,in%20investment%2C%20Morrison%20will%20say (Accessed October 2020)

Taking action:

10. **With the support of the Canada Infrastructure Bank, drive nation-building projects by:**
    - Developing a strategic perspective on the highest productivity-enhancing infrastructure priorities for the country.
    - Unlocking a pipeline of investable infrastructure projects by increasing the acceptability of user-pay models.
    - More proactively incentivizing these projects to happen, including non-traditional asset classes (e.g., digital and green infrastructure, including CCUS and small modular reactors (SMRs).[56]
    - Creating fast-track approval processes across all levels of government to increase the scale and velocity of investment.

11. **Invest in strategic trade infrastructure that addresses critical bottlenecks** (e.g., create gateways and corridors strategy for bulk commodities and containers). Infrastructure needs to be trade-focused. Rail, road, ports, airports, pipelines and tech capacity are priorities, and we have well-known infrastructure deficits in these areas. We will not be able to keep pace with demand in fast-growing markets if we do not ramp up infrastructure investments significantly.

> ***What we heard***
>
> - "We have delayed leveraging the full opportunities of the Canadian Infrastructure Bank, and this must be remedied. We are in desperate need of trade-enabling infrastructure."
>   – CEO, financial institution
> - "We need an infrastructure-led approach to stimulate Canada's resource sector and to restore investor confidence"
>   – Industry leader

Agile regulation

A regulatory ecosystem that encourages and facilitates innovation is an important tool for the Government to facilitate recovery. In Budget 2018, the Government announced that it would pursue a regulatory reform agenda focused on supporting innovation and business investment and make Canada's regulatory system more agile, transparent and responsive in order to stimulate opportunity. For example, duplication in federal/provincial regulatory requirements create bottlenecks by increasing costs for businesses and encouraging investment outside of Canada. Targeted regulatory reviews to remove such barriers to economic growth are being conducted on high-growth sectors and strategic areas. These include clean technologies (to grow the sector and support the adoption of new technologies across sectors), digitization and technology neutrality (by simplifying regulatory approvals and making regulations more adaptable to technology changes), and international standards (harmonization through incorporating international standards in our regulations).

56 Green infrastructure includes natural vegetative systems, green technologies and low-carbon infrastructure to address urban and climate challenges such as stormwater management, public transit systems, and renewable energy.

The Council strongly supports these efforts and encourages accelerated activity where the Government can leverage these vehicles for change to ensure a regulatory system that supports a vision of innovation, sustainability and growth. We can simplify the existing system and provide new areas of growth, namely by harmonizing, codifying, and setting new industry standards. In addition, continued efforts to cut red tape on commercial operations and marketplace exchanges, and to digitize and automate approval processes and client service interactions, will help businesses reduce time spent on activities that distract from value creation.

We note that our call to action in this area echoes what has been put forward by previous councils and advisory committees to the Government. If COVID-19 has taught us anything, it is the art of the possible. When needed, we can move very quickly, in a coordinated manner with governments and the private sector, to find our way through red tape that prevents action and agility. As a Council, we want to reiterate the importance of action here, especially in key areas for accelerating our growth.

SECTORAL CROSSWALK: Regulations

The speed and responsiveness of the Government and its ability to mobilize quickly to deliver a range of emergency benefits and relief measures was on full display in the early days of the pandemic. A comparable degree of urgency is required to streamline and modernize our regulatory system to support innovation and encourage investment.

The need for an agile, transparent and responsive regulatory framework was reinforced in five sectors including Resources for the Future, Digital Industries, Clean Technology, Transportation and Health/Bio-sciences, with stakeholders signaling their support for a new collaborative relationship between industry and regulators. COVID-19 should be the impetus to accelerate critical work on regulatory reform.

Taking action:

12. **Fast-track regulatory reviews in sectors where delays have a disproportionate financial and societal impact** (e.g., clean technology, resources), conduct targeted regulatory reviews to support most impacted sectors (e.g., oil and gas, aerospace), and build on ongoing regulatory reform efforts to eliminate areas of federal and provincial overlap.

What we heard

- "For years, we have been told about the low hanging fruit/opportunities to remove CFTA (Canadian Free Trade Agreement) exceptions. Now is the time to work with provinces and territories to review."
  – CEO, national business association
- "Now, more than ever, we must reduce interprovincial trade barriers. In particular, breaking down these barriers would optimize the virtual health care system."
  – Industry leaders

Strategic use of procurement

Previous studies including the Advisory Council on Economic Growth (2017)[57] and Jenkins Report (2013)[58] have highlighted the importance of the strategic use of procurement to support Canadian business. During our engagement sessions and deliberations, we heard frequent reminders of the key role that the purchasing power of federal, provincial, and municipal government play to stimulate demand and create markets for new products. Strategic procurement could be used to accelerate and support innovation, help small- and medium-sized companies scale up and gain the experience and credibility to become fully integrated in global supply chains, as well as provide economic support to Indigenous communities.

Government procurement can accelerate the development of technologies directly and generate "investment credits" that incentivize the behaviour of large private sector actors (e.g., Industrial and Technological Benefits). We encourage the Government to use these powers judiciously to achieve strategic goals—including support for priority sectors, high-growth potential firms, and future-focused technologies, like digital, clean technology, and health/bio-sciences. Strategic procurement can help Indigenous-led business grow and can contribute to reconciliation by encouraging business development and socio-economic outcomes that support the path to self-determination.

COVID-19 has served as a stark reminder of the value of domestic resilience, and domestic supply chains. We should follow the examples of our peer countries and apply a national security lens more broadly to drive domestic procurement in areas critical to the well-being of Canadians, such as transportation, energy, bio-technology and life sciences. When the Government is the first buyer of innovative technologies in these spaces, it enables our firms to scale more quickly, create more jobs and adopt an export orientation. Moreover, strategic procurement can be used to unlock economic benefits throughout the entire innovation ecosystem.

CROSSWALKS BETWEEN PROCUREMENT AND STRATEGIC SECTORAL ACTIVITY

Our clean technology, digital, and health/bio-sciences sector-specific recommendations are included in our Feature Section: Deep Sector Insights. They include a call for the strategic use of procurement to accelerate demand of made-in-Canada technology, incentivize industrial deployment, and ensure the resilience of our domestic supply chains and capabilities.

A targeted approach could better support domestic innovation, increase export potential, create meaningful jobs in high-growth sectors and ensure Canadian competitiveness.

57 Advisory Council on Economic Growth – https://www.budget.gc.ca/aceg-ccce/pdf/innovation-2-eng.pdf (Accessed October 2020)
58 Canada First: Leveraging Defence Procurement Through Key Industrial Capabilities – February 2013 https://www.tpsgc-pwgsc.gc.ca/app-acq/documents/eam-lmp-eng.pdf (Accessed October 2020)

Previous recommendations on strategic procurement

A number of reports have included calls for action on procurement. These include:

- A **2012 Review of Aerospace and Space Programs and Policies**, led by David Emerson, recommended that Canada leverage government procurement to build our domestic aerospace industry.[59]
- The **2013 Jenkins Report** created to inform the development of the government's defense procurement strategy argued that the Government of Canada could use procurement as a tool to build world-class Canadian-based suppliers of scale.[60]
- A **2017 report by the Advisory Council on Economic Growth** recommended that Canada modify its government procurement policy to incorporate strategic procurement and innovation as a key objective. They noted that the Government could support fast-growing businesses by using strategic procurement policies to be a first customer, particularly in regulated sectors such as health care and energy.[61]
- The **2018 Report by the Economic Strategy Tables** similarly stated that government procurement could be used to accelerate adoption of Canadian innovation, drive solutions to big challenges and send powerful signals in the marketplace.[62]

Taking action:

13. Improve supply chain resiliency through **strategic domestic procurement**, particularly in strategic sectors impacted by COVID-19 and/or where there is opportunity to create scale in health care, clean technology, education and Indigenous-led businesses. The recommendations of previous reports on procurement should be fully implemented.

What we heard

- "Government procurement should be used as a lever to incentivize production in Canada"
  – Industry leader
- "Risk-aversion in public procurement creates challenges for start-ups and small businesses."
  – Industry leader

59 Review of Aerospace and Space Programs and Policies Volume 1: Beyond the Horizon: Canada's Interests and Future in Aerospace – November 2012 http://aerospacereview.ca/eic/site/060.nsf/eng/00048.html (Accessed October 2020)

60 Canada First: Leveraging Defence Procurement Through Key Industrial Capabilities – February 2013 https://www.tpsgc-pwgsc.gc.ca/app-acq/documents/eam-lmp-eng.pdf (Accessed October 2020)

61 Advisory council on economic growth – Unlocking Innovation to drive Scale and growth – February 6, 2017 https://www.budget.gc.ca/aceg-ccce/pdf/innovation-2-eng.pdf (Accessed October 2020)

62 Economic Strategy Tables Report – The Innovation and Competitiveness Imperative: Seizing Opportunities for Growth, September 2018 http://www.ic.gc.ca/eic/site/098.nsf/eng/00027.html (Accessed October 2020)

REIMAGINE: CATALYZE GDP GROWTH BEYOND PRE-COVID-19 LEVELS

As we Reimagine Canada, we can further build on our areas of strength to position us for success in the years to come.

RECOMMENDATION D: Canada needs an industrial strategy with four key pillars for a digital, sustainable, and innovative economy for all Canadians

COVID-19 has highlighted the need to strengthen and build a competitive and resilient economy. Without a clear, overarching industrial strategy to help Canadian sectors excel in an increasingly innovative global landscape, Canada risks being left behind.[63] Canada's recovery and our competitive edge will depend on us developing an industrial strategy to address our challenges. This includes identifying the areas and sectors in which we are best set to compete and lead globally. As a start, we are rightly focused on the parts of our economy that are struggling or have been hit hard by COVID-19, but we also need to expand that focus to strategic sectors where we can double down investment, scale businesses and go global.

We need to bear in mind the shifts in global demand and the need to aim the Canadian economy more in that direction. Put another way, if we are going to grow, it is going to be on the global trade front and in non-traditional markets. Long before COVID-19, Canada's current account balance was in a deficit. This position reflects Canada's trade and investment relationships with the rest of the world.[64] Combined with the effects of the pandemic, policy makers are forced to address two challenges in tandem: the pre-COVID-19 current account deficit and new fiscal and global market pressures. These are the two mountains we now need to climb. To describe the issue more clearly, Canada is facing a need to double down on our abilities domestically and on how we approach trading relationships globally.

We recognize that a call for an industrial strategy might be contentious. However, the economy-wide damage caused by COVID-19 amplifies the need for an agile and targeted approach, focused on leveraging our competitive advantages and maximizing economic and social outcomes. This is not about the Government "picking winners". Throughout our consultations, we heard about Canada's competitive strengths and the economic benefits that could be realized if we had a targeted strategy to promote specific sectors and their productivity. The overriding goal should be to cultivate innovative firms and new technologies that can compete globally and in turn boost economy-wide productivity.[65]

We had the opportunity to meet with many of the best and brightest of Canadian business, labour, academia, and civil society over the summer, and we were inspired by their vision for Canada. An industrial strategy would serve to rally Canadians around our economic future long after the threat of COVID-19 has passed.

Through an industrial strategy rooted in evidence-based policy and strategic investments, we can build the capacity that is required to support a resilient recovery. Such a strategy can improve Canada's productivity, competitiveness and future attractiveness on the global stage through investments in our comparative advantages and where there is global demand.

63 Martin Prosperity Institute – https://www.brookings.edu/wp-content/uploads/2018/06/Canadas-Advanced-Industries_18-06-05_FINAL2.pdf (Accessed October 2020)
64 Public Policy Forum – https://ppforum.ca/publications/two-mountains-to-climb-canadas-twin-deficits-and-how-to-scale-them/ (Accessed October 2020)
65 Public Policy Forum – https://ppforum.ca/wp-content/uploads/2020/04/NewNorthStarII-PPF-APRIL2020-EN.pdf (Accessed October 2020)

What is an Industrial Strategy?

In an article in the OECD Observer, "Industrial Policy's New Look", Anne-Lise Prigent effectively encapsulates thinking on the new industrial policy for the 21st century:

"A broad definition [of industrial policy] includes both innovation, infrastructure and skills policies, as well as targeted interventions boosting a specific sector, activity or cluster of firms. And it is not about shoring up old-style manufacturing, but rather about encouraging high value-added activities in agriculture, industry and services… Industrial policies nowadays require a high level of co-ordination and sequencing of actions directed at skills, finance, infrastructure and the like. This means investing in more and better training and addressing skill mismatches. It also means increasing access to finance for companies to invest in innovation and developing production…[I]ndustrial policies imply "targeted government actions aimed at supporting production transformation that increases productivity … improves domestic capabilities and creates more and better jobs"."[66]

Canada: Our strengths can position us for the future

- **Rich natural resource endowment:** Third largest per capita natural resource endowment in the world, including, water, agriculture, energy, forestry and mining.[67]
- **World-leading post-secondary education:** Highest proportion of population (59.4%) of Canadian workers with tertiary education (compared to the OECD average of 38%).[68]
- **World-class financial ecosystem:** With a stable banking system and some of the largest pension funds.[69]
- **Trading nation with open borders and leading market access:** 14 free trade agreements covering 60% of the world's GDP and giving access to 1.5 billion consumers across 51 countries.[70]
- **Robust R&D capabilities and hotspots in leading research areas:** Host to some of the world's top minds and inventors, such as AI technology with renowned AI research centres (CIFAR, MILA, Vector Institute, Amii). Another example is our capabilities around antibody and vaccine development, areas of oncology, and precision medicine in med-tech and digital health.[71]
- **High quality of life**: Well-developed public health and education systems, political and economic stability, strong social safety net and tradition of multiculturalism allow Canada to attract top international talent.[72]

66 OECD Observer – https://oecdobserver.org/news/fullstory.php/aid/4436/Industrial_policy_92s_new_look.html (Accessed October 2020)
67 Economic Strategy Tables – https://www.ic.gc.ca/eic/site/098.nsf/eng/00026.html (Accessed on October 2020)
68 OECD – Adult education level (indicator). doi: 10.1787/36bce3fe-en (Accessed on October 2020)
69 Bank of Canada – https://www.bankofcanada.ca/wp-content/uploads/2016/06/fsr-june2016-bedard-page.pdf (Accessed October 2020)
70 Government of Canada – https://www.tradecommissioner.gc.ca/canadexport/0003849.aspx?lang=eng (Accessed October 2020)
71 Global Affairs Canada – https://www.international.gc.ca/investors-investisseurs/assets/pdfs/download/Niche_Sector-AI.pdf (Access October 2020)
72 U.S. News – https://www.usnews.com/news/best-countries/quality-of-life-rankings (Accessed October 2020)

We have identified four interconnected pillars, which could form the cornerstone of an industrial strategy and would have real economic impact across Canada's provinces and territories, industrial sectors, and population. These include: *becoming a digital and data-driven economy; being the ESG world leader in resources, clean energy technology; building innovative and high-value manufacturing where we can lead globally; and leveraging our agri-food advantage to feed the planet.*

The interconnectedness between these four pillars is a key strength. Our ability to identify and invest in elements that cross-cut industrial sectors to create value, will enable us to fully leverage the associated economic benefits and yield economic growth. The sectoral diversity represented on our Council has provided a unique lens through which to identify these crosswalks.

Implementing an industrial strategy is no easy task. There are important steps to consider to ensure success. To implement Canada's industrial strategy, the Council recommends:

- The signal for its implementation be given at the highest level of government to ensure the involvement of all departments, and that some level of funding be secured to meet industrial strategy objectives (an *Industry Growth Fund*);
- The coordination and oversight of the implementation be led by Innovation, Science and Economic Development Canada;
- A public–private partnership component requiring the involvement of an organization that is both "in the state and in the market," such as BDC; and
- In this context, a new mandate could be given to BDC and/or others to develop and implement new partnerships with the private sector, driven by increased investment, the development of strategic sectors, and the idea of a shared responsibility for the success of the country and the well-being of Canadians.

Canada's peer countries are making bold strategic choices and investments to build their industries for the future. They are investing heavily in stimulus measures and deploying sector-specific support to drive productivity. Countries such as Italy and Germany have implemented aggressive fiscal responses. Other countries including the US, UK, China, France, Israel, India, as well as the EU are significantly increasing support for innovation in the face of an accelerated move to a digital, data-driven and decarbonized global economy, particularly as a result of the pandemic.[73]

In this new context, we need to ensure a stronger position for Canada on the global stage—one that supports more Canadian firms to become global leaders and that creates wealth and prosperity for all Canadians. By implementing the proposed industrial strategy, which focuses on leveraging our strengths to compete globally, we are laying the groundwork for success.

Pillar 1: Become a digital and data-driven economy

Establish Canada as a ***leader in digital*** *through purposeful R&D and connectivity investments in order to create* ***world-leading digital native companies, transform traditional sectors, retain Canadian talent, and prepare Canadians for the future****.*

While digital disruption was well underway long before the onset of COVID-19, the pandemic has dramatically accelerated the global shift to digital. In mere months, segments of Canada's economy, including e-commerce and education, have been propelled forward upwards of ten years in their digital adoption. Given this new reality, governments around the world are taking appropriate action (investing in essential and strategic industries, next generation digital platforms, legal frameworks, data, privacy, and IP) recognizing that their firms must embrace digital or be rendered obsolete in the global marketplace.

73 McKinsey & Company – https://www.mckinsey.com/~/media/McKinsey/Industries/Public%20Sector/Our%20Insights/The%2010%20trillion%20dollar%20rescue%20How%20governments%20can%20deliver%20impact/The-10-trillion-dollar-rescue-How-governments-can-deliver-impact-vF.pdf (Accessed October 2020)

CASE STUDY: How global comparators are deploying sector-specific support to drive productivity

- **Germany:** €50B to be invested in future areas such as the hydrogen economy, quantum technologies, and artificial intelligence (e.g., offering open incentives to attract Tesla).[74]
- **Spain:** €40B loan guarantee scheme for new investments in the fields of technology and the green economy.[75]
- **European Union:** Common Agricultural Policy provides €387B (by 2027) to support transition toward an economically, environmentally and socially sustainable and market-oriented agricultural sector and rural development.[76]
- **South Korea:** >$2B to be invested in strengthening digital capabilities, including ICT infrastructure and increasing AI research and bolstering skills.[77]
- **France:** €15B in support of the aerospace industry, split evenly between the airlines and aerospace sectors.[78]
- **Norway:** Presented a tax deferral plan estimated at over $10B for the oil and gas industry and supply industry, to make it easier for companies to carry out planned projects.[79]

The pandemic showed the extent to which operational resiliency depends on the ability of firms to adopt and deploy modern digital technologies and to leverage the data that come with it. Globally, digital and data-transformed companies are projected to increase from approximately $12T in GDP production to $50T over the next four years.[80] To capitalize on these global opportunities, Canada will need to drive toward robust digital infrastructure that provides the platform upon which all firms can build up their digital footprint. As noted earlier, Canada's future prosperity is linked to our ability to eliminate the digital divide and enable all Canadians to participate in a digitally connected future.

Canada conducts world-leading R&D and does well at creating promising tech start-ups; however, few of our digital native firms grow to scale within Canada. Fortunately, the Government has many tools at its disposal. In addition to strategic procurement and eliminating regulatory barriers, current innovation support programs (e.g., IRAP, SIF, SR&ED) can be adapted to fill the gap that currently exists to support firms scaling from SMEs to upper-middle or large firms. Countries like Germany, France, China and the United States, have focused on scaling upper-middle companies to become world leaders. In our context, this would entail identifying Canadian-controlled companies (public or private) with greater than $75M per year in revenue, and supporting their growth to $1.5B in revenue.

The most important asset of any leading firm is its people, and Canada cannot build a digital and data-driven economy without sufficient talent. Canada has long been an attractive destination for globally mobile talent and has the opportunity to build on its reputation as a welcoming country at a time when other nations are turning inwards. However, estimates also show that we lose upwards of 60% of software graduates from leading universities in Canada.[81] To build a winning workforce, we need new solutions to retain and attract talent, and to ensure employees have continual access to the latest skills training.

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74 Government of Germany – https://www.bundesregierung.de/breg-en/news/konjunkturpaket-1757640 (Accessed October 2020)
75 The Globe and Mail – https://www.theglobeandmail.com/business/international-business/article-spain-unlocks-first-tranche-of-8-billion-from-new-credit-lines-for/ (Accessed October 2020)
76 European Commission – https://ec.europa.eu/info/food-farming-fisheries/key-policies/common-agricultural-policy/future-cap_en#proposal (Accessed October 2020)
77 The Diplomat – https://thediplomat.com/2020/06/south-koreas-digital-new-deal/ (Accessed October 2020)
78 France 24 – https://www.france24.com/en/20200609-france-pledges-15-billion-euros-in-aid-for-aviation-sector (Accessed October 2020)
79 Bloomberg – https://news.bloombergtax.com/daily-tax-report/norway-hands-10-billion-in-tax-deferrals-to-ailing-oil-industry (Accessed October 2020)
80 IDC FutureScape: Worldwide IT Industry 2020 Predictions , Oct 2019 | Doc #US45599219 | IDC FutureScape |
81 The Globe and Mail – https://www.theglobeandmail.com/business/technology/article-canada-facing-brain-drain-as-young-tech-talent-leaves-for-silicon/ (Accessed October 2020)

> "Intangibles are the single biggest driver of future growth, and critical for every sector (oil, agri-food, clean-tech, etc.). We need to be the landlord of the future economy, not the renter."
>
> – INDUSTRY LEADER, INFORMATION TECHNOLOGY

Canada's recently unveiled Digital Charter, which contains principles to develop privacy, access, and support measures, will unlock innovation while maintaining Canadians' trust. The Government is now implementing its IP strategy, which is encouraging new opportunities for patent pools and IP services to build savvy in an economy of intangibles. Both of these broad initiatives could be further operationalized in partnership with industry to promote public-private collaboration and to fully leverage the value of our assets. The goal should be to unlock responsible and innovative use of data and ensure Canadian firms capture value from their IP. The Government already provides a suite of services for innovators working in the intangibles economy; these programs should be embedded with support for IP awareness and strategy development to increase the value we capture in Canada.

Taking action:

1. **Build a Global Canadian Digital Network (which could be called the Borealis Digital Network) to transform Canada into a digital society**
   - Create a strategy to scale Canada's digital industry domestically and internationally (e.g., accelerate national data and cybersecurity standards and regulations, increase funding for trade commissioners to help build digital trading outposts and routes for Canadian technology).
   - Expand infrastructure investment strategy to amplify digital infrastructure components such as broadband, software, AI, 5G, etc., and leverage existing programs (e.g., Connectivity Strategy, Infrastructure Bank).
   - Leverage Canada's strengths (e.g., brand, privacy framework) to broaden access to international markets for Canadian firms (e.g., collaboration with upper-middle firms, leverage Canadian standards—such as privacy—to promote exports).
2. **Support Canada's upper-middle businesses**
   - Increase focus on enabling upper-middle firms to win globally (e.g., allocate a proportion of patient capital to upper-middle firms poised for rapid scale-up, adapt eligibility of existing programs such as IRAP to better include them).
   - Build on key initiatives such as Innovative Solutions Canada, establish government procurement standards that support growing Canadian firms (e.g., government as first customer).
   - Encourage the adoption of digital technologies in large Canadian firms, including digitizing government services.

What are upper-middle companies?

Canadian-controlled companies (public or private) with greater than $75M per year in revenue and that have growth potential.

3. **Establish Canadian high-skilled talent as a global advantage**
   - Enable a leading digital skills platform to upskill and reskill Canadian talent.
   - Create a retention strategy for sought-after talent trained in Canada through incentives and other efforts (e.g., wage top-ups).
   - Expand the global talent stream to more proactively attract and retain digital talent to Canada, especially as other nations close their doors to sought-after talent.

4. **Leverage IP and promote the value of data**
   - Support IP creation and ownership within Canadian companies (e.g., IP filing costs, SR&ED application, policy education).
   - Modernize the privacy and data protection regime to harmonize the multi-jurisdictional regulations.
   - Create national regulatory and standards framework governing data, including open source, big data libraries to promote public-private collaboration, offer new R&D program funding and make better use of Canada's assets to grow the data-driven economy.
   - Embed IP strategy into government funding programs to ensure Canadian business and innovators have access to the best IP resources, and offer financial supports for IP development.

What we heard

- "Connectivity must be rolled out to all communities and we must fill financial gaps where there is no business case to do so. It will be expensive, but we cannot afford to not take this approach."
  – CEO, digital industries
- "We must educate ourselves on proper data governance to reduce risks of cyber threats."
  – CEO, insurance company
- "Our critical factor is digital transformation, while our key risk is digital displacement. We must prepare small business for the digital economy. Many are still struggling with the basics (e.g., websites). We need to remember that digital transformation is not only about artificial intelligence."
  – CEO, pension fund

Pillar 2: Be the ESG world leader in resources, clean energy, and clean technology

Position Canada as the global champion and provider of ESG across all our industrial sectors, especially in resources (oil and gas, forestry, mining), clean or low carbon energy, and clean technology, while leading globally on de-carbonization and GHG emission reduction.

Canada has the 3rd largest endowment of natural resources in the world, behind only China and Saudi Arabia,[82] meaning that Canada is the largest democratic resource base in the world. Resources account for almost half of our national exports.[83] This provides our country with the tremendous opportunity to supply the globe from our significant resources in oil, natural gas, forestry and mining, and to do so in a way that reflects Canada's values. These values include the rule of law, democratic and universal rights, care for the environment, engagement with our Indigenous citizens, inclusion and diversity, and effective corporate governance. These values are foundational to the ESG principles used to evaluate businesses, and uniquely position Canada to be the global champion provider of ESG in natural resources. Clearly, enhanced opportunities in Indigenous engagement, participation, and ownership in the natural resources industries are part of strengthening our social participation.

82 WorldAtlas – https://www.worldatlas.com/articles/countries-with-the-most-natural-resources.html (Accessed October 2020)
83 Statistics Canada – Statistics Canada Table: 12-10-0012-01 (Accessed October 2020)

Opportunity to be a global champion

The Council believes that Canada has a unique opportunity to be an ESG global champion in resources, which gives due consideration to the associated environmental, social and governance factors.

We can become a global champion in two ways: by creating new industries and global value chains in clean energy technology where Canada can complete globally, as well as supporting decarbonization pathways in the economy, including in the oil and gas sector.

This is combined with financial and social prosperity factors, in measuring the overall sustainability and impact of a company or business (or a whole sector). ESG global champions in resources are resource extractors, developers, processors and exporters who are world leaders in ESG.

Canada needs to do better in reducing its carbon emissions. We are one of the highest emitters on a per capita basis, in part because Canada is the second largest country in the world (by area) with a low population density, we have an extreme cold climate, and we provide substantial resources to the world. In fact, it has been estimated that 45% of Canada's carbon footprint is associated with producing goods for export.[84]

The resource sector understands the need to drive down GHG emissions to address climate change and meet societal expectations. Canada's oil and gas companies spend more on clean technology investments than all other industries combined.[85] The industry has made good progress over the past decade, but we need to do more at a quicker pace. Accelerated decarbonization is not only helping to drive down emissions in our resource sector, but is also creating new industries and global value chains in clean energy and technologies where Canada could compete and lead globally. Canada can and should be a leader in energy transition.

Achieving Canada's 2030 Paris commitment of 30% emission reduction (from 2005 levels), and the Government's commitment from the Speech from the Throne to achieving net-zero emissions by 2050 will require additional sector-specific decarbonization pathway development and clean technology infrastructure investments. Investments in these pathways and initiatives would greatly benefit Canada's higher GHG emission sectors (e.g., transportation, oil and gas, agriculture, and manufacturing). Our clean technology sector is well positioned to develop and deploy solutions to support decarbonization pathways across all sectors. This cannot be done without the collaboration of the Government and the resources sector, who want to be part of the solution.

The Government has committed to invest in renewable energy and next-generation clean energy and technology solutions, as well as to reduce the GHG emissions of current activity through technologies such as small modular reactors (SMRs) and CCUS. The Council supports a focus on building and scaling areas of clean energy/technology where we have exportable expertise, such as hydrogen, battery technology, SMRs, CCUS and biofuels. Canada has additional clean technology strength in renewable energy, energy storage, smart grids, transportation, water technologies, waste management, recycling and the circular economy.

84 Based on aggregated McKinsey analysis of the 2018 National GHG Inventory (assembled by Ministry of Environment and Climate Change for UNFCCC reporting) and Statistics Canada export and import data. Consistent with OECD Trade in Embodied CO2 database (TECO2), updated March 2019, which reported 40% of national carbon footprint was in production of goods for export in 2015 (the last year for which OECD had data), given that oil exports increased ~18% between 2015-2018.

85 Context Energy Examined – https://context.capp.ca/energy-matters/2019/dyk_oil-and-gas-is-largest-spender-on-clean-tech-in-canada#:~:text=According%20to%20a%20study%2C%20Canadian,oil%20and%20natural%20gas%20industry.&text=The%20investments%20are%20being%20used,water%20use%20and%20land%20disturbance (Accessed October 2020)

New opportunities to capture global market share are also emerging as we pivot towards product innovation and value-added production in our resources sector. Our resource endowment, including increasingly eco-responsible oil and gas, coupled with our advanced manufacturing capabilities, position us to provide high value-added and refined products to meet world demand for the near future. While actively engaging in the development of renewable energies and the decarbonization of its economy, Canada must meet demand in the best possible way; it must present itself as an exemplary supplier. As we recover from COVID-19, this presents a tremendous opportunity for Canada to leverage its natural capabilities in resources and clean technology. Doing so will accelerate our pace of growth and ensure we provide responsible ESG resources and clean technology to the globe, while strengthening the Canadian economy.

Taking action:

5. **Support all natural resource sectors in becoming global ESG suppliers and product innovators**
   - Build a resilient oil industry by becoming a world leader in CCUS to drive down the carbon footprint and provide energy that is based on ESG; support commercialization of SMRs to reduce emissions.
   - Accelerate innovation of engineered wood products and biomass and advance sustainable management practices to maximize net carbon absorption of forests.
   - Build on world leadership in sustainable mining practices and grow an economic, commercial-scale critical materials supply chain (e.g., rare earth elements, nickel) required for many new technologies (e.g., electric vehicles (EVs), energy storage, sensor and data processing applications) to improve national and North American supply chain resiliency.
   - Focus on nature-based solutions and accelerate development of low- or no-carbon biofuels.

6. **Leverage clean technology strengths to accelerate exports and domestic adoption and decarbonize key industrial sectors**
   - Mobilize capital (and patient capital) to drive private sector investment into priority clean tech areas, especially for scale-up.
   - Produce hydrogen (blue, green, grey) fuel at scale and build associated infrastructure for domestic consumption and export.
   - Build the battery supply chain (from critical minerals to specific parts required for assembly) in Canada to meet North American and global supply needs.
   - Become a world-leading hub for sustainable aviation and bio-jet fuel (e.g., R&D support for aviation firms).
   - Establish a targeted strategy for development of technical and business talent (e.g., product commercialization, capital markets, IP protection, global supply chain development) to scale clean tech firms, while growing employment opportunities for underserved communities.
   - Advance Canada's clean technology strength in renewable energy, biofuels, energy storage, smart grids, transportation, and water technologies.

7. **Incentivize all sectors to meet Paris commitments with a cost and time optimal decarbonization pathway**
   - Develop a national or pan-Canadian net-zero 2050 emissions plan and then work with each sector (e.g., resources, energy, manufacturing, agriculture, transportation, clean technology) and the private companies within the sector to gain alignment and execution of their portion of the plan.
   - Enable firms to use credits from any region in Canada and internationally to meet carbon reduction obligations.
   - Develop incentives for energy efficiency and decarbonization projects (e.g., US 45Q incentives) including the establishment of an interconnected electricity grid and renewable energy.

- Invest in green infrastructure investments to support transition to a net-zero economy, e.g., CCUS, nationwide EV charging stations, energy efficient buildings and nature-based climate solutions and affirm Canada's intent to be a leader in energy transition and clean technologies.

What we heard

- "Going forward, resource industries can help fundamentally change the outlook for Indigenous communities and allow them to take control of their economic destiny."
  – Business Council of Canada Task Force on Canada's Economic Future
- "Oil will remain an important sector; 96% of vehicles sold last year ran on gas. We need to invest in improving environmental performance in the industry, and and become the benchmark for responsible petroleum."
  – CEO, Pan-Canadian association
- "Sustainable energy creates potential for Canada to be a world leader in vital areas. Canada can produce the next generation of batteries; we have class 1 nickel in Sudbury that could position us as the OPEC of the future."
  – Industry leader
- "Future demand for critical materials will only continue to grow with the clean energy revolution. Security of critical material supply has now become a significant concern for governments in light of the COVID-19 disruption to global supply chains… we have all the minerals (for electric vehicles, energy storage, sensor and data processing applications and pharmaceuticals) and access to advance processing technologies in Canada. It is important that Canada have the commercial ability to transform these into the required, highly specialized technology materials that power green/clean-energy applications—at commercial scale."
  – Industry leader

Pillar 3: Build innovative and high-value manufacturing where we can lead globally

Establish Canada as a global innovator in high-value manufacturing sectors by supporting private investment in R&D, enhancing productivity, commercializing innovation, and exporting globally, while building domestic resiliency.

Manufacturing has always been an economic driver and enabler in Canada. Our country has strong a history in advanced manufacturing including in the automotive, aerospace, food processing and machinery manufacturing sectors. These sub-sectors yield a substantial multiplier effect throughout the Canadian economy by creating jobs through the supply chain and as a purchaser of raw materials. Further, manufacturing adds value for other key sectors, such as health/bio-sciences, resources of the future, clean technology, and agriculture, through the transformation of ideas, inputs or raw materials into new or improved products and processes. Advanced manufacturing can provide other sectors with the equipment and tools that help them to secure competitive advantages like keeping up with environmental goals, cost efficiencies, and increasing demands on migrant labour.

SECTORAL CROSSWALK:
Advanced manufacturing with talent and workforce recommendations

People are critical to advanced manufacturing no matter how advanced the technologies become. An important issue in supporting progress in this sector is moving labour up the technology ladder. In our workforce recommendations we suggest more support for reskilling programs. This is equally important for the trades and workforces with specific expertise in manufacturing that need to continuously improve with advancements in technologies and processes.

However, since the early 2000s, manufacturing production has been falling, though still stands as Canada's 2nd largest private sector contribution to Canada's GDP at 10%. Due to COVID-19, manufacturing saw a 30% decline in GDP, with automotive, aerospace, and machinery experiencing especially negative shocks.[86] The global pandemic has reinforced the importance of a strong domestic manufacturing footprint, especially in industries that support national health, safety and security. On a global scale, strategic considerations are leading countries to rethink their supply chains, in response to COVID-19 and in light of their national strengths. This is widely seen as a manufacturing renaissance, in Canada and around the world.

Through our consultations, we heard that now is the time for Canada to review its place in global supply chains. This includes repatriating certain manufacturing capabilities, while seeking to enter new markets and establish international importance. Fortunately, there are areas of global leadership within Canadian manufacturing to develop and supply high-value products that the world needs for a sustainable future. We can leverage these to accelerate recovery within the sector, while also building a future-oriented and more resilient domestic manufacturing sector.

To take advantage of these possibilities, investments over the next 12 to 18 months could help to attract key global investments in our areas of strength. For example, Canada boasts health/bio-sciences companies with the scientific edge to become global anchor firms in biotechnology. We have a resource endowment that provides key materials underpinning modern technologies, but have yet to fully leverage this through large scale value-added production. We also have innovative firms that are developing the next generation of manufacturing equipment and technologies that incorporate automation, artificial intelligence, machine learning and robotics to achieve new levels of productivity, safety and precision.

The Council identified three Canadian sectors poised for global growth because of their sheer size, successful utilization of innovation, and spin-off to other domestic companies in the supply chain. Focusing on these will position Canadian manufacturing for the future and allow us to seize emerging opportunities and new areas of growth:

- The value of our **health/bio-sciences** sector has been demonstrated by a global health and economic crisis that cannot be overcome without biotechnology solutions: namely, diagnostic testing, therapeutic treatments and vaccine development. Before the onset of the pandemic, the sector had been experiencing booming investment in Canadian biotech firms, as investors seeking returns flocked to the sector. Notably, Canadian annual biotech equity financing activity rose to $1.6B in the first half of 2020.[87] Moving forward, we have an opportunity to continue to leverage the strengths of Canada's robust health/bio-sciences ecosystem and capitalize on advances in areas like big data, artificial intelligence, gene and cell therapies, regenerative medicine and 3D printing to drive transformational breakthroughs in biotechnology.
- Our **value-added resources** sector is an area with significant growth potential, as Canada has an abundant supply of technologies and resources to improve performance and reduce impacts on the environment. For example, rare-earth elements, are critical inputs for many advanced technologies, including rechargeable batteries. We have the opportunity to establish a first-mover advantage in prospective, highly specialized, and high value-add production (e.g., electric vehicle (EV) batteries and parts, carbon capture and utilization, and small modular reactors).

86 Statistics Canada – Statistics Canada Table: 36-10-0434-02 (Accessed October 2020)
87 The Globe and Mail – https://www.theglobeandmail.com/business/article-biotech-blind-spot-how-canadas-big-investors-missed-the-boom/ (Accessed October 2020)

- Our **high-value manufacturing** sectors also contribute added growth-potential for Canada. In **aerospace**, Canada is the only country that ranked in the top 5 globally in all civil flight simulator, engine, and aircraft sub-segments.[88] Furthermore, the Canadian aerospace sector also contributes disproportionately to innovation, with R&D intensity that is five times higher than the rest of the manufacturing sector.[89] Aerospace firms are also leveraging and investing significantly more in emerging technologies, and now is an opportunity to future-proof Canada's aviation and aerospace advantage and accelerate resource innovation, with increased prioritization of decarbonization by the airline sector. This involves activities to improve fuel efficiency and develop new technologies and systems engineering to reach the future of carbon-neutral air transportation. Expanding sectoral activity in this way will drive up R&D and knowledge creation, which can generate other ripple affects and benefits.

  In **automotive**, Canada is one of the world's top 10 producers of light vehicles.[90] With over 100 years as an auto-producing nation, automotive manufacturing is well positioned with the infrastructure and R&D expertise required to make our country a global leader in emerging automotive technologies such as electric vehicles and fuel cells. We now have the potential to translate these strengths in both the aerospace and automotive sectors into global leadership in sustainability.

A focus on building the products that we, and the world, need to achieve a sustainable future will enable Canada to lead globally. This will require patient capital in research-intensive areas that hold the potential of producing transformative technologies. Our industry peers have identified a need to drive cross-functional collaboration among researchers and firms working on future-oriented areas such as hydrogen fuels, materials and minerals for EV batteries, virtual care technologies and sustainable aerospace and aviation technologies. This includes providing incentives to accelerate R&D investment and commercialization among firms and doubling down on achieving global scale with a focus on export potential and supply chain resilience. The Government announced plans to incentivize production of sustainable technologies in its Speech from the Throne.

Now is time for the manufacturing renaissance in Canada to realize our place as the most competitive jurisdiction in the world for building high-value products that Canada and the world need for a sustainable future.

Taking action:

8. **Boost investment in innovation and commercialization**
   - Establish supports to ensure Canadian products and IP remain differentiated (e.g., explore incentives for companies that turn domestically produced IP into locally produced products).
   - Develop a strategy to drive local and international private sector investment in priority sub-sectors—potentially via blended finance and a patient capital fund with a focus on research-intensive products.

88 Government of Canada – https://www.ic.gc.ca/eic/site/ad-ad.nsf/eng/h_ad03964.html (Accessed October 2020)
89 Government of Canada – https://www.ic.gc.ca/eic/site/ad-ad.nsf/eng/h_ad03964.html (Accessed October 2020)
90 Government of Canada – https://www.ic.gc.ca/eic/site/auto-auto.nsf/eng/home (Accessed October 2020)

9. **Accelerate technology creation and adoption**
   - Increase investment incentives (e.g., for next-generation autonomous manufacturing equipment), directly tied to outcomes (e.g., skills and talent training, commercialization, exports, and environmental performance) to enable rapid scale-up.
   - Incentivize productivity-enhancing technology adoption (e.g., fund capability-building programs, offer diagnostic services to help firms understand available technologies and respective applications).
10. **Connect technology clusters and manufacturing firms**
    - Establish infrastructure to encourage cross-functional collaboration in nascent but growing areas (e.g., tech meetups focused on bio-sciences innovations, incubators specializing in developing alternative aviation fuels).
11. **Build skills and talent for Manufacturing 4.0**
    - Ensure a robust labour force (e.g., targeted scholarships, course reimbursements, expedited visas for high-skilled workers and their families).
    - Support female and minority workers in manufacturing to ensure positive progress on employment parity is not lost through COVID-19 and continued into the future (e.g., work-sharing program update, targeted upskilling efforts).

What we heard

- "Our vision for a rescue plan would be to improve global productivity. Not create a couple of champions but instead increase productivity levels all across the value chain."
  – National industry association
- "There is an opportunity for a manufacturing renaissance in Canada."
  – CEO, national business association
- "Our automotive industry achieved a network of high-tech production infrastructure that can be leveraged beyond auto making. The same with aerospace—it's the infrastructure created that's important."
  – CEO, national business association
- "We should over-invest in targeted sectors to create high tech production infrastructure which can be multi-purpose."
  – Industry leader
- "We punch well above our weight in aerospace. I have seen this growth in Canada, and we have not ended up with an industry that is the envy of the world by accident. We did it based on partnerships between governments and businesses to nurture R&D."
  – Industry leader, aerospace firm
- "We need to support the industries which will be the industries of the future, not just support industries that are important right now. We want existing industries to be value-added in the future"
  – Financial expert

Pillar 4: Leverage our agri-food advantage to feed the planet

***Leverage Canada's agri-food production and value-added processing, endowment in natural resources, and strengths in AI to become a global leader in precision agriculture**, leading to a sustainable, traceable and safe food system supplying high-quality products, including processed food, to local and global markets.*

In the wake of the pandemic, some global economies acted defensively to restrict cross-border trade, limit exports, and protect domestic supplies of agricultural products. Despite this, many countries remain reliant on imports for trusted, reliable and safe products, positioning Canada's agri-food sector as a strong engine of growth through recovery.

Canada is the world's 2nd largest agricultural trader per capita and one of the top exporters of key commodities including wheat, oats, lentils, and live beef.[91] Similarly, the food and beverage processing industry is Canada's second largest manufacturing industry (value production) and largest manufacturing employer.[92] To ensure that we fully leverage this positioning, Canadian agri-food businesses need longer-term solutions to ensure consistent availability of labour. Approximately 4,000 agricultural operations across Canada rely on the Temporary Foreign Worker (TFW) Program to address ongoing labour shortages.

Canada's agriculture sector is also well positioned for longer-term growth. Despite declines in projected global agriculture supply due to climate change and degradation of cultivable land, yield projections in Canada are expected to increase for many principal field crops.[93] As we strive to supply the world, we want to strengthen our domestic local providers, and to the extent possible, leverage their growth to achieve our global ambitions. Simultaneously, rising consumption levels in emerging markets, particularly in East Asia, will increase global demand for key food commodities. Canada can avail of the opportunity for greater market share with increased adoption of cutting-edge digital tools (e.g., precision agriculture) that create step-change in productivity and sustainability along the supply chain.

Nevertheless, to fully capitalize on increased global demand for food commodities, we must strategically address current trade infrastructure gaps to ensure that Canadian businesses can get their products to global markets quickly. Over the past decade, global confidence in Canadian trade infrastructure has fallen. Previously ranked 10th (2007) in the world, Canada is now ranked 20th (2018) by the World Bank.[94,95] To maintain our long-term trade competitiveness, Canada needs a modern, multi-modal transportation system that will support the increased trade opportunities available in the economy of the future.

Canada's regulatory system contributes to the nation's overall competitiveness; however, the Government must maintain regulatory agility to support the growth and scale of Canadian businesses. Internal regulatory barriers hinder innovation and competitiveness. Since the emergence of COVID-19, the Canadian government has shown agility in regulatory processes within the agri-food sector, including providing temporary exemptions for the interprovincial movement of meat and poultry products and providing flexibility on certain labelling requirements for food service products that do not have an impact on food safety. Our vision is that the Government continues to prioritize regulatory flexibility over the long term.

Canada also has unique strengths in bio-sciences and a highly skilled workforce that can be leveraged to develop and commercialize innovative products including

91 Farm Credit Canada – https://www.fcc-fac.ca/fcc/knowledge/ag-economist/capt-report-2016.pdf, with updates from AAFC (Accessed October 2020)
92 Government of Canada – https://www.agr.gc.ca/eng/food-products/processed-food-and-beverages/overview-of-the-food-and-beverage-processing-industry/?id=1174563085690 (Accessed October 2020)
93 Statistics Canada – https://www150.statcan.gc.ca/n1/daily-quotidien/200831/dq200831a-eng.htm (Accessed October 2020)
94 The World Bank – https://lpi.worldbank.org/international/global/2007 (Accessed October 2020)
95 The World Bank – https://lpi.worldbank.org/international/global (Accessed October 2020)

zero-carbon fertilizers, phenotyping, drought-resistant crops, and plant-based products and proteins. Investing in these innovations will allow ambitious farmers to grow their agri-food businesses into globally competitive firms. At the same time, Canada will look to harness new talent from outside the traditional agri-food sector, particularly as it prioritizes opportunities for digitization.

We envision that agri-food jobs of the future will recruit some of Canada's most talented minds from industries including digital, bio-sciences, and clean technology. Similarly, innovations in the agri-food sector are poised to help advance innovation within other industries. For example, renewable biofuels made from agriculture and food sources, present significant opportunities to help Canada achieve its sustainability and climate change goals. We were pleased to hear a commitment to reducing emissions from farming and forestry, as well as strengthening Canada's food supply chain in the Government's Speech from the Throne.

Taking action:

12. **Build the necessary infrastructure and market access for future waves of growth**
    - Accelerate investments in trade infrastructure to address critical bottlenecks for the transport of goods (e.g., multi-modal port and rail, northern access).
    - Develop a rolling, 50-year "Trade Corridors and Gateways National Infrastructure Plan" to ensure a long-term approach to infrastructure planning and funding.
    - Continue expanding international market access through bilateral agreements focused on removing tariff and non-tariff trade barriers.

13. **Deploy investments in competitive areas**
    - Support investments in value-added transformation of raw goods, to allow Canadian players to capture a larger share of value from processing activities (e.g., maintain investment focus and momentum for plant-based protein, additional focus on other areas such as renewable fuels).
    - Encourage development and commercialization of innovative bio-science products (e.g., zero-carbon fertilizers, phenotyping, drought-resistant crops, plant-based products) and processes (e.g., increasing carbon absorption of soil).

14. **Increase digitization to improve productivity**
    - Accelerate broadband infrastructure investments to enable connectivity, especially in rural and Indigenous communities, and increase the adoption of digital technologies that are critical to productivity improvements in the sector.
    - Incentivize digital investments across supply chains to lower inventory requirements and improve overall efficiency (e.g., blockchain and automation of processing lines).

15. **Modernize regulatory systems and build a 21st century talent pipeline**
    - Modernize regulatory system with a focus on removing internal trade barriers to enable the growth of the Canadian agri-food sector and help businesses achieve scale and become globally competitive.
    - Attract new talent into the agri-food sector, with a particular emphasis on digital and business skills.
    - Modernize the TFW Program to address pre-existing labour shortages in the long term.

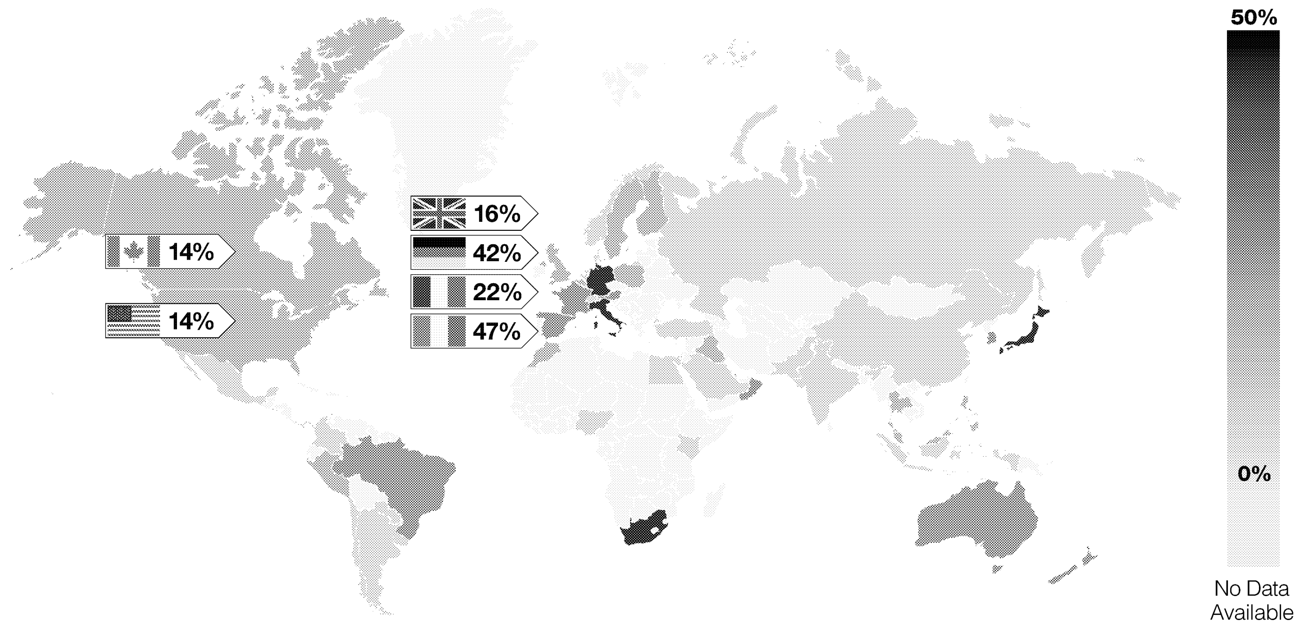
What we heard

- "We need to create products that meet the needs of new consumers focusing on nutrition, health and sustainability. We need to commercialize these opportunities to capitalize on the growth in middle incomes around the world, and market access is key to ensure we get these"
  – Agri-food executive
- "Canada is a world leader in agriculture, but we still have an 'extraction' mentality—building real value-added processing at home is key to enabling long-term sector growth"
  – Agri-food executive

RECOMMENDATION E: Establish renewed private sector partnerships and investments anchored in a sound and rigorous fiscal framework.

Figure 8: Comparing size of stimulus measures in Canada's peer countries

(September 2020, Stimulus as a % of GDP)



Source: McKinsey & Company, The $10 trillion rescue: How governments can deliver impact, September 2020 (Accessed September 2020)

Successful implementation of the Council's recommendations will require a strong fiscal framework and renewed public–private partnerships. Historically, Canada's debt-to-GDP ratio has been among the lowest in the G7. In addition, a strong federal balance sheet allowed Canada to have one of the most ambitious fiscal responses globally to the COVID-19 pandemic.[96]

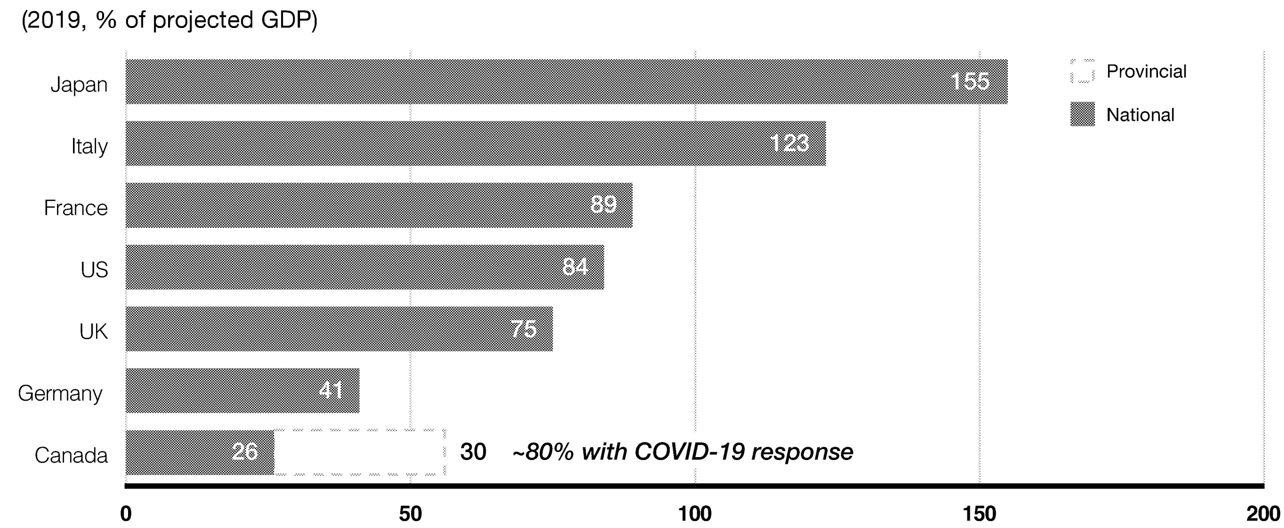
For governments around the world, the pandemic will continue to necessitate spending on urgent public priorities. Similarly, the measures proposed in the Council's action plan will require further investment. Nevertheless, it will be important for Canada to maintain its strong fiscal position over the medium term and to avoid significant increases to our debt-to-GDP ratio.

As our government makes the investments needed to meet the challenges of Canadians, it should also aim to preserve Canada's hard-won fiscal foundations. To do this, some of the larger interventions implemented to support the economy throughout the pandemic should eventually conclude or demonstrate a return on investment over the longer-term (e.g., investments in human, physical and intellectual capital). Similarly, it is important to ensure that any new or expanded support measures do not discourage private sector investment that could be leveraged to spur competitiveness.

In this context, renewed public–private partnerships, through establishing the right frameworks and incentives, are needed to accelerate economic recovery by mobilizing private capital.

96 McKinsey & Company – https://www.mckinsey.com/~/media/McKinsey/Industries/Public%20Sector/Our%20Insights/The%2010%20trillion%20dollar%20rescue%20How%20governments%20can%20deliver%20impact/The-10-trillion-dollar-rescue-How-governments-can-deliver-impact-vF.pdf (Accessed October 2020)

Figure 9: Net debt-to-GDP ratio



Source: Global data from International Monetary Fund, World Economic Outlook Database, 2019; Canadian data from RBC Economics, Canadian Federal and Provincial Fiscal Tables, 2020 and the Fraser Institute, The Growing Debt Burden for Canadians, 2020 (Accessed September 2020)

Maintain a sound and rigorous fiscal framework

Prior to COVID-19, Canada had been experiencing a current account deficit since 2009. Adding to this, the pandemic introduced new fiscal pressures, including an expansion of public debt, heightened demands for social security and health care, and further erosion of the price of Canada's largest export (oil and gas). However, the pandemic is pushing governments around the world to explore and consider important changes to fiscal policy, including the use of new tools to achieve inflation goals, and alternate indicators, such as unemployment rates, to guide fiscal measures.[97] In the short term, Canada has been able to dynamically and aggressively respond with fiscal policy measures aimed at ensuring that demand does not collapse, while also mitigating some of the impacts on underrepresented groups.

A rigorous fiscal framework is needed to ensure that Canada maintains a strong credit rating and has continued access to low-cost capital. It is more important than ever for Canadian governments to have a medium-to-long term plan to restore public finances, and to communicate effectively with citizens, markets, global trading partners and investors about how they intend to get there.

Throughout this report, we identify measures that will generate significant economic returns for Canada, and we call for these investments to be anchored in a strong and predictable fiscal framework to ensure our country's continued prosperity.

Taking action:

1. Develop a realistic and predictable plan for economic recovery and reimagination to **meet four clear fiscal objectives**:
   - Canada remains an **acknowledged leader** among industrialized countries in the **management of public finances** and level of debt and deficit.[98]
   - Careful program design ensures that an expansion of public financing **does not crowd out private investment** in Canada.

97 International Monetary Fund – https://www.imf.org/en/News/Articles/2020/10/06/sp100620-the-long-ascent-overcoming-the-crisis-and-building-a-more-resilient-economy (Accessed October 2020)

98 Public Policy Forum – https://ppforum.ca/publications/two-mountains-to-climb-canadas-twin-deficits-and-how-to-scale-them/ (Accessed October 2020)

- New spending mostly **supports future growth** (e.g., investment in human, physical and intellectual capital to improve productive capacity and export potential) rather than simply fueling short-term consumption; **outcomes are rigorously tracked and managed**.
- Canada improves the **competitiveness of its tax regime**.

What we heard

- "We must acknowledge our capital account balance. We cannot continue to distribute income that we aren't producing ourselves."
  – Financial expert
- "Our economy is facing the forces of digitalization, rising inequality, de-globalization and climate change and governments have a limited amount of money. We need solutions and investments that deliver 'two-for-ones' or 'three-for-ones'; outcomes that improve the economy and create jobs and lower emissions. As private money comes back into the market, they want the 'two-for-ones' it has to be a good investment, plus it's got to be sustainable."
  – Financial expert
- "We need to reassess our frameworks, we are working with old tools from past crises."
  – Industry leader
- "We have an opportunity to reform our tax system and to use tax incentives to drive economic and policy goals. Government needs to learn from the speed used to peel regulatory layers to build something more supple and flexible."
  – Industry leader

Establish new private sector partnerships

Our go-forward action plan should maximize opportunities to encourage, incentivize and partner with the private sector in order to increase investment. The new economic environment has increased the importance of establishing renewed private-public partnerships in order to multiply public investments with private capital (e.g., prolonged low-interest environment for investors, additional liquidity requirements in hardest-hit sectors, and an unprecedented opportunity to consolidate for well-positioned firms). To accomplish this, Canada should build on its existing strengths, which include leading institutional investors and one of the safest financial systems globally; a proven track record of public–private partnerships delivering large capital projects; and experience attracting capital.

Throughout our engagement sessions, we heard a strong desire to establish renewed private-sector partnerships. We must leverage the resources of the public sector and the know-how of the private sector to advance our industrial and competitive advantages. While we have what it takes to be a global leader in several industries (e.g., clean technology, digital industries, high-value manufacturing, and agri-food), we need to better organize our public and private sector to work together to unlock our economy's full potential. We heard of different ways to increase partnerships, for instance by designing programs to crowd in private capital.

To be a true leader, Canada needs stronger public–private partnerships through which it can align an industrial strategy as a tool to spur growth, innovation and competitiveness. In taking this approach, each stakeholder group is better served than in isolation and Canada is better positioned to leverage its competitive advantages. In some cases, an arm's length organization, with close ties to both our private and public sector, would provide a unique mechanism to unite and implement such a partnership.

One of the lessons learned from Canada's pandemic response is the tremendous amount that can be accomplished by working together. We have seen that when provincial and federal governments work collaboratively, in partnership with the private sector and civil society, Canada can pivot quickly to address emerging challenges. For example, at the onset of the pandemic, when PPE was difficult to source internationally, Canadian businesses stepped up to retool their plants to produce masks, face shields, medical gowns, and other PPE for front-line workers.

Building on this partnership approach will allow us to protect core elements of the economy, and take bold and decisive action to set Canada on a path for future success. Renewed partnerships between business, citizens, and governments will help to reimagine Canada's future economy to be more inclusive and competitive, and will open the doors to new opportunities. The long-lasting relationships created by such partnerships can yield multiple socio-economic benefits long after specific funding agreements expire. The seeds of this collaboration have already been sowed through past collaborative efforts such as the Advisory Council on Growth and the Economic Strategy Tables (ESTs), created in April 2017.

Through the Industry Strategy Council, the Minister of Innovation, Science and Industry asked industry to work collaboratively to assess challenges and forge a path forward together. The relaunch of the ESTs will build a framework for continued partnership in examining sectoral needs, and enabling industry to support the development of government policies that are anchored in mutual understanding and a joint approach. There are also other partnership forums, such as the unique Canadian Automotive Partnership Council, which can be further leveraged.

Taking action:

2. Collaborate with the private sector to deliver the recommendations and leverage proven approaches, including:
   - **Stand up new forums for regular, transparent dialogue** on investment opportunities between the Government and Canada's financial ecosystem.
   - **Establish a framework for risk-sharing** in public–private partnerships that can be adapted for individual projects (e.g., risk-sharing, first loss, mediation).
   - In collaboration with provinces, **establish a unified national strategy for attracting global capital** into the country while maintaining high standards for corporate governance and disclosure.
   - **Provide targeted incentives to de-risk and accelerate investments, and create win-win opportunities for investors** to earn appropriate levels of return **while helping the economy.**

What we heard

- "Businesses and government don't know each other as well as they should. We need to strengthen partnerships between government and industry."
  – Industry leader
- "Opportunity to use private sector capital to help with designing, building and maintaining infrastructure projects."
  – Industry leader
- "On Pharmacare, a public-private partnership can help fill gaps and optimize pricing."
  – Industry leader
- "There needs to be buy-in at the provincial level to mobilize private capital to invest in renewables."
  – CEO, pension fund

4. CONCLUSION: A CALL TO ACTION TO MAKE IT REAL FOR CANADIANS

We envision a future Canadian economy that provides health and prosperity for all Canadians. Economic and social recovery from COVID-19 affords us a once-in-a-generation opportunity. A moment of pause, though difficult and imposed upon us, that permits us to reimagine our future. A chance to boldly refocus towards a competitive, inclusive, sustainable and resilient economy. We must not miss this opportunity to build back better. It is for this reason that after our many conversations with Canadians and following vigorous debate amongst Council members, we carefully proposed recommendations to bring this vision to fruition.

The Council hopes the insights and recommendations of this report will inspire action and will meaningfully contribute to the Government's economic and policy agenda.

As they are implemented, our recommendations will have the potential to accelerate growth and drive the efficiencies needed to yield real economic impact. We are confident that our insights will help our country: respond effectively to the sectors in greatest need; double down on our areas of existing strength; and solidify a path to recovery that positions Canada for global success. This will mean taking a short-term and long-term approach to closing output gaps, creating new jobs and managing barriers to growth.

To ensure that the returns can be materialized for Canada, we need the right investments and partnerships leveraged from across the economy. Our country needs new approaches to attracting and incentivizing investment, training people so they are equipped to take on new jobs or roles, leveraging our trade relationships in newly reshaped supply chains, and working with the public sector on program design to maximize benefits for the economy and for Canadians.

As industry leaders, we know that execution counts. For one, our recommendations cannot be actioned in isolation. Canada's governments and private sector must work collaboratively, continuing to build trust and confidence, to implement the actions we outlined. One of Canada's greatest strengths is our solidarity and collaborative spirit, which must be maintained and indeed strengthened in this shifting geopolitical landscape. The foundation for implementation already exists: the Council sought to leverage and adjust existing government programs and the private sector is already making substantial investments to set Canada on the path for growth.

The Council's recommendations reinforce one another, span the mandate of several federal organizations and call for significant public–private partnerships to crowd in private investment to support a true industrial strategy.

Each of the Council's recommendations follow one of the following principles to ensure a prudent fiscal approach with real GDP benefits and private sector investments:

- **They unlock significant private investment without requiring additional funds from the Government.**

  For example, as regulatory uncertainty hinders private sector investment, tackling regulatory barriers can have transformative impact on the economy without requiring investment. The Government can fast-track regulatory reviews in sectors where delays have a disproportionate financial and societal impact (e.g., unlock large project financing where private capital is waiting to be deployed). It can also strengthen the use of procurement as a strategic tool to scale Canadian firms and build domestic champions.

Real GDP Impact and Jobs

Our proposed investments would yield multiplier effects throughout the Canadian economy and materialize economic benefits beyond GDP growth. An October 2020 IMF article, *Public Investment for the Recovery*, stated that "in times of high uncertainty, increasing public investment by 1% of GDP could strengthen confidence in the recovery and boost GDP by 2.7%, private investment by 10%, and employment by 1.2% if investments are of high quality and if existing public and private debt burdens do not weaken the response of the private sector to the stimulus."

The 2016 federal budget stated that, with the right conditions (e.g., when resources in the economy are underutilized and policy interest rate is close to its effective lower bound), government investment is expected to have a larger short-term impact (through fiscal multiplier) as it does not displace private investment. It also assumed that, based on the historical relationship between growth in employment and real GDP in Canada, a 1% increase in real GDP would immediately translate into a 0.2% increase in employment, rising to about 0.6% after eight quarters. For example, at current employment level of 18.5 million, a 0.2% increase would mean 37,000 jobs for the first year and a 0.6% increase after two years would mean an average of 55,000 jobs per year.

There are different approaches to estimating job creation but regardless there is a level of return that comes with public–private investment, particularly during times of crisis. We have provided a level of potential GDP return associated with investment amounts that serve as an illustration of the possible economic growth.

Setting aside these estimates, the Speech from the Throne, noted that our recovery will require one million new jobs to bring Canadian employment back to pre-COVID-19 levels. Our proposed investments can help the Government achieve that mission.

- **They seek growth by redirecting existing programs and/or reallocating unused funding to areas where additional public investment is needed.**

  Not all of the recommendations require net-new budgetary allocations. Some may leverage existing stimulus programs (e.g., BDC's $20B available for financing, venture capital, growth and transition capital and consulting services, or EDC's $10B for use through trade, finance, export credit insurance or bonding services). Others call for accelerating action within existing measures (e.g., Universal Broadband Fund with $1B over 10 years to support broadband projects, and the $30B in connectivity projects in the Canada Infrastructure Bank.) There are also opportunities for the Government to support sectors that are critical to the low-carbon energy transition (e.g., oil and gas) at little to no cost.

- **They prioritize areas for public investments that will crowd in private capital and accelerate productivity-enhancing trends** in the wake of the pandemic that support Canada's renewed industrial strategy (e.g., digitization, ESG resources and clean technology, advanced manufacturing and agri-food). Public investment projects can stimulate private investment more directly when made in digital communications, electrification, and transportation infrastructure which allows new businesses to emerge.[99]

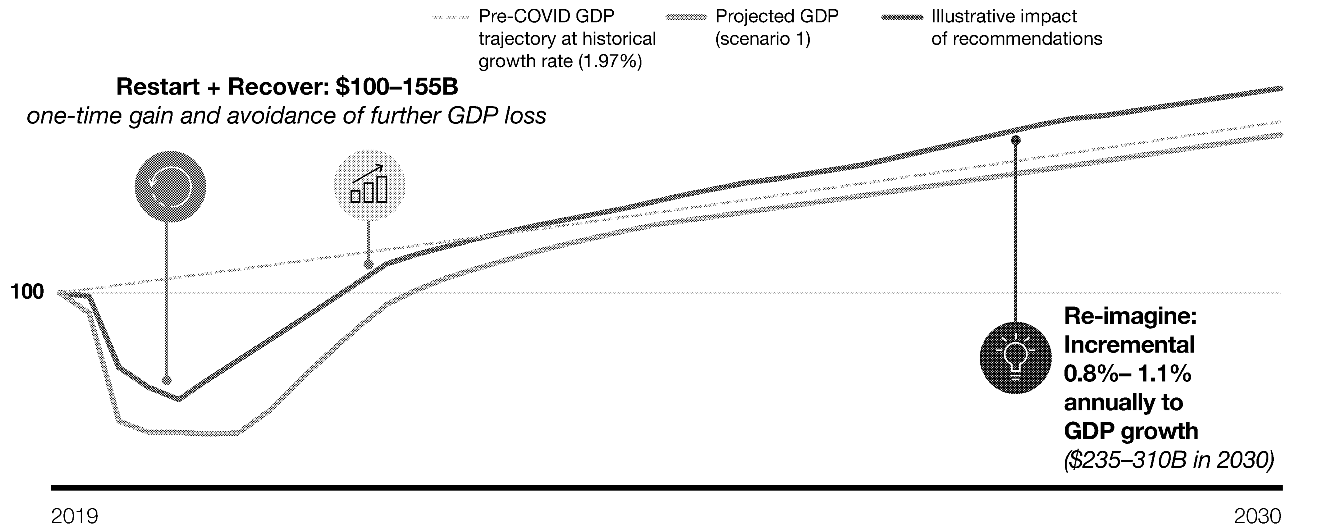
To illustrate the potential returns from the Council's recommendations, preliminary high-level estimates were conducted. Based on this work, it was estimated that with investments of $85 to $115B in **Restart** and **Recover**, GDP levels could potentially return to and exceed pre-COVID-19 levels, adding a projected $100 to $155B in the short to medium term.

And, bolder investments of $130 to $170B in actions to **Reimagine** our economy could add an incremental 0.8-1.1% to Canada's GDP annually. This would potentially increase GDP by an estimated $235 to $310B in 2030.

99 International Monetary Fund – https://blogs.imf.org/2020/10/05/public-investment-for-the-recovery/ (Accessed October 2020)

Figure 10: Illustrative effect of recommendations on GDP

(2019 to 2030, Q4 = 100)



Source: Historical growth rate based on Statistics Canada data, Table: 36-10-0104-01 (Accessed July 2020); Projected GDP and *illustrative impact of recommendations based on McKinsey analysis for Council*.

To reap the full benefits of the action plan, all actors need to be committed, coordinated, and aligned. A strong implementation mechanism is required to effectively deploy the investments and ensure the plan responds to on-the-ground feedback. The Council and the Economic Strategy Tables could contribute to this role.

Furthermore, a plan with that level of ambition calls for a commitment to secure the required investments.

In that context, we believe that one promising option would be to introduce some form of industrial growth fund (an "Industry Growth Fund") that is aligned to support the objectives of the industrial strategy we have recommended herein.

The ***Industry Growth Fund*** would need to be sufficiently large to make a difference—somewhere in the initial range of $30 to $35B. The right amount could be higher than this, depending on the country's take-up and capacity to move ahead with a Global Canadian Digital Network (which could be called the Borealis Digital Network) as described in Section 3, under Recommendation C of this report. This is necessary if we really want to see ourselves as leaders against countries doubling down in their areas of strength.

The ***Industry Growth Fund*** could consolidate the proposed investments and proposals into one place, especially given the various entities involved. ***Creating it would permit Canada to reach the right level of resources and direct them to priority actions relating to the four pillars of the industrial strategy"*** (i.e., digital economy, ESG leadership in resources and clean technology, building high-value manufacturing and leveraging our agri-food advantage to feed the world).

Execution is not simple; several approaches are possible. As the goal is to make our recommendations for Canadians come to fruition, the Council is offering options that will stimulate and infuse investment and partnerships in the economy. For instance, leveraging

private pension funds could be considered. Alternatively, or additionally, the Government could consider standing up or having an existing Crown corporation manage the fund. A robust implementation mechanism would send a strong signal that the Government is committed to executing the proposed industrial strategy and rally federal organizations to implement it cohesively.

As we have expressed throughout this report, Canada is an exceptional country, whose people have a strong willingness to work with one another and to develop a new solidarity and ambition, with a bold objective to position Canada's small- and medium-sized firms as leaders on the global stage. Canada also has the potential to attract more foreign investment, building on our potential to be global leaders in ESG, particularly in sectors such as clean technology and resources. We are known for our strong cultural foundation built on values of sustainability and strong governance.

Now is the moment to address this crisis and our country's pre-existing challenges laid bare by the pandemic. We need to do this to foster growth of Canada's businesses and generate prosperity and wealth for all Canadians. This is why the Industry Strategy Council and the Economic Strategy Tables are committed to continue to work on the cohesive strategy outlined in this action plan.

We call on our colleagues, our federal and provincial partners, and on all Canadians to work together to bring to life our common aspiration for Canada's future. Together, we will build a digital, sustainable and innovative economy for all Canadians.

5. FEATURE SECTION: DEEP SECTORAL INSIGHTS

Canada's sectoral pain points and opportunities

Part of what makes up Canada's diverse economy is a sophisticated level of activity across a variety of sectors. As Council members, who work in some of those sectors, we have experienced first-hand the pain points facing our economic portfolio of sectors and have noted the importance of addressing these as part of our recovery and growth.

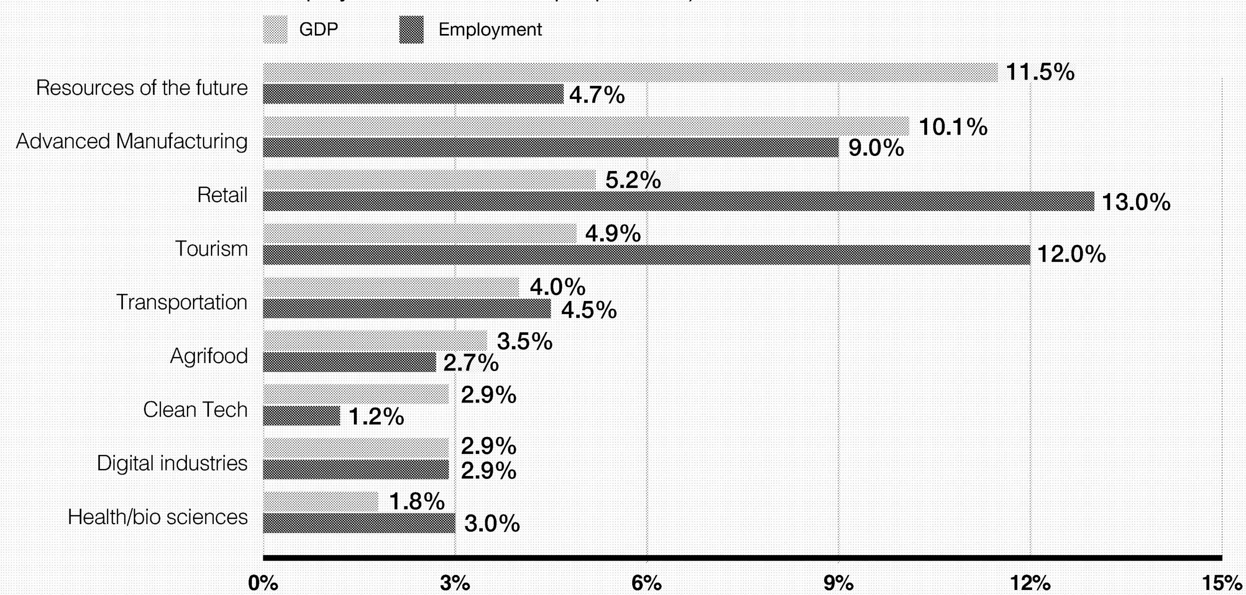
In our recommendations, we call for urgent action to stabilize the hardest-hit sectors and protect their long-term prosperity: aerospace, aviation, tourism and hospitality, retail and resources. With deep sectoral insight and evidence, we developed our recommendations to also target the less affected sectors where we can accelerate recovery and double-down on growth opportunities: advanced manufacturing, agri-food, health/bio-sciences, clean technology and digital industries. This section shares those detailed insights on Canada's sectoral pain points and opportunities for action for the sectors in the following order: resources of the future, advanced manufacturing, retail, tourism and hospitality, transportation, agri-food, clean technology, digital industries, and health/bio-sciences.

Resources of the Future

The resource sector is the largest capital expenditure contributor in Canada at 31%, with the highest economic multiplier effect to the economy, representing almost 11.5% of GDP. It is also the leading contributor to Canada's trade, mainly driven by crude oil, accounting for around 40% of exports, or approximately $250B, in 2019.[100]

Figure 11: Share of Canadian GDP by sector

(2019, GDP in dollars as %, employment in number of people as %)

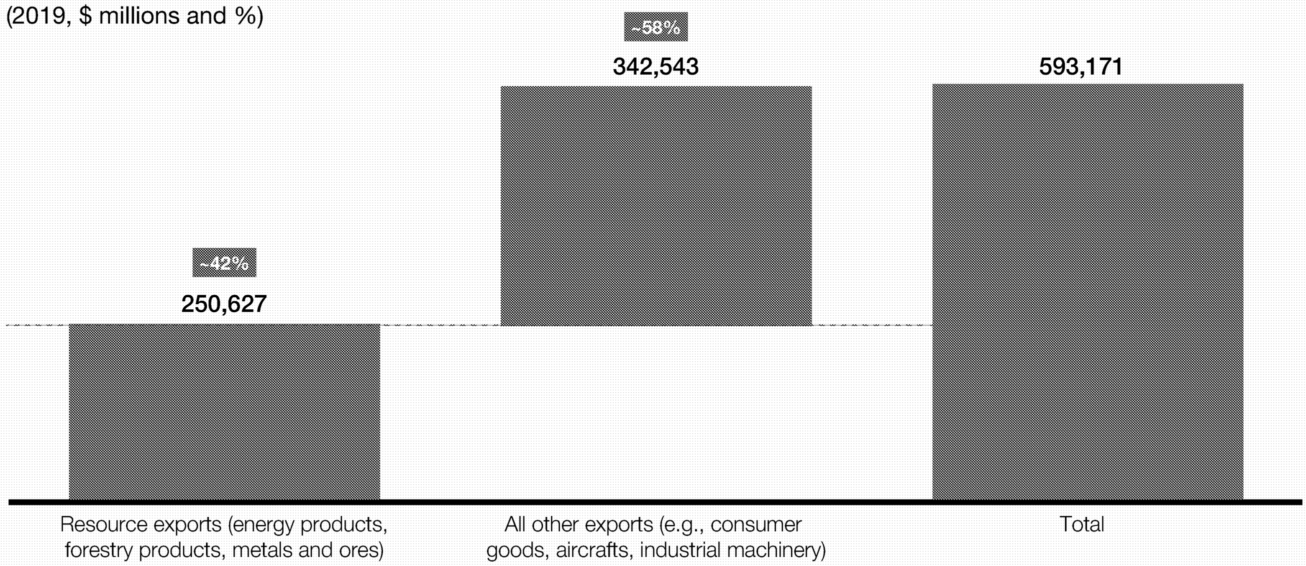


Source: Statistics Canada, Tables: 36-10-0434-02 and 14-10-0023-01 (Accessed July 2020)

100 Statistics Canada – Statistics Canada Table: 12-10-0012-01 (Accessed October 2020)

Figure 12: Canadian exports by commodity

(2019, $ millions and %)



Source: Statistics Canada, Table 12-10-0012-01 (Accessed October 2020)

The sector provides important social contributions to Canada. Over 900 communities were economically reliant on at least one natural resource sector (including $3.3B spent by oil and gas companies alone on procurement from Indigenous-owned companies).[101] The mining sector is the second-largest private sector employer of Indigenous Canadians.[102] The forestry sector builds roads to support travel in remote communities, and develops harvesting plans informed by engagement with Indigenous peoples. All resource sectors are a driver of economic development in northern and remote communities, providing business, employment, training, procurement, and infrastructure development.

Canada's resource sector prides itself on its environmental leadership. Canada's mining sector is a leading producer of many minerals required for clean technology development. Indeed, Canada is the 5th largest producer of nickel (with an even stronger presence in Class 1 nickel),[103] which is an essential component of nickel-cadmium batteries in EVs, and the 2nd largest producer of uranium, a key ingredient for nuclear reactors.[104] Actors in Canada's oil and gas industry own two of the world's five CCUS projects, and the sector has enormous ability to increase the application of these processes while significantly reducing Canada's GHG emissions. Accelerated environmental, social and governance pressures from capital markets and investors are creating an opportunity for Canada's resource sector to provide the most responsible and sustainably-produced resources in the world.

101 Natural Resources Canada – https://www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/emmc/pdf/10_key_facts_on%20Natural%20Resources%20Canads_2020_E.pdf (Accessed October 2020)
102 Natural Resource Canada – https://www.nrcan.gc.ca/our-natural-resources/minerals-mining/minerals-and-economy/20529 (Accessed October 2020)
103 Natural Resource Canada – https://www.nrcan.gc.ca/our-natural-resources/minerals-mining/nickel-facts/20519 (Accessed October 2020)
104 Natural Resource Canada – https://www.nrcan.gc.ca/energy/energy-sources-distribution/uranium-nuclear-energy/uranium-canada/about-uranium/7695 (Accessed October 2020)

"It has been a tremendous pleasure to work alongside such accomplished leaders from across various Canadian Industries to talk about how to recover from COVID and chart the path forward for the country. From the resources sector, we are excited about the potential to help Canada recover quickly and for us to demonstrate Canadian values of inclusion, the rule of law, human rights, Indigenous engagement and environmental stewardship to bring our resources, innovation and clean technology to the globe and make the world a better place for all."

– COUNCIL MEMBER MARK LITTLE, PRESIDENT AND CEO, SUNCOR ENERGY INC.

Sectoral pain points:

Oil and gas:

- Lack of transport capacity and market access is impeding full economic performance in all resource sectors, and is particularly acute in the oil & gas industry (insufficient pipeline capacity, eastern Canadian reliance on foreign oil, and rail congestion due to competition with other commodities have led to discounts or shut-in oil production). The support from the federal government for the Trans Mountain pipeline will have a positive impact on reducing pipeline bottlenecks.
- Agile and predictable regulations that avoid duplicative compliance requirements and that reduce approval times are critical to accelerate and encourage projects and investments, as well as prevent capital flight, from Canadian resources sectors (such as oil and gas, mining, and forestry).
- *ESG pressure from investors* is providing an opportunity to increase the focus of the resource sector on emissions reduction in the short term and to highlight Canada's best in class "S" and "G" performance. Canada is a global powerhouse in natural resources (49% of exports), and the effective transformation of the sector must be managed against global competition and climate change interests. Accelerating emissions reductions will be a necessary journey to fully become the global ESG leader in resources and to achieve Canada's 2030 and 2050 climate change goals.
- Price declines have forced oil and gas firms to cut CAPEX by 33% ($10B lost in 2020, which won't be recovered until 2021 and beyond), with a 50% reduction directly impacting the service sector.[105] Other resource sectors face moderate liquidity challenges and project that financing will remain low.
- Pricing outlook is uncertain, and global crude and product inventories remain high. The OPEC+ agreement to reduce supply steps down over time and is valid until April 3, 2022 (with an extension review during December 2021), but it is unclear whether this is enough to sustain prices given the forecast for global demand.

Basic materials and mining:

- Drop in commodity prices is impacting margins and increasing need for efficiency improvements. Pricing of some metals has dropped by up to approximately 20% (major Canadian metals, including copper, zinc, nickel, and iron, are less impacted). This affects margins, despite dropping oil prices and devaluation of Canadian currency (approximately 8%).[106]
- Production stoppages and a drop in end consumer purchases have caused a decline in demand. While this situation is compounded by production stoppages globally, it is expected to quickly recover, as seen in China.

105 S&P Global Market Intelligence – https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/update-12-oil-majors-to-slash-capex-by-43-6b-amid-price-collapse-coronavirus-57718263 (Accessed October 2020)

106 KITCO – https://www.kitco.com (Accessed October 2020)

- While there are considerable disruptions in global supply, Canadian operations were largely unaffected. Indeed, a majority of Canadian commodities are expected to continue facing global supply disruptions, improving pricing outlook. Mining is considered an essential activity in Canada, so we should see a limited impact on operations. However, continued operations during the pandemic have generated concerns regarding worker safety and have added to the cost of mining.

Forestry:

- Impacts on pulp and paper products vary, as demand for graphic products remains low, with COVID-19 accelerating downturn of this sector, while at the same time demand for tissues and fibre packaging is strong or stable due to hygiene concerns and ecommerce growth.
- A decline in demand for lumber was registered and prices collapsed by more than 30% following the onset of the COVID-19 pandemic. This was largely driven by a drop (approximately 40% in May from January) in US housing starts, with a prolonged economic uncertainty expected to have a lasting impact on demand.[107]
- Outbreaks of Mountain Pine Beetle and other bug infestations in Western Canadian forests have reduced the availability of useable lumber, stressing the industry and forcing some closures.

Taking action:

- Provide additional incentives for viable upstream operators to reignite their capital expenditures and ensure existing business credit programs provide bridge funding to long-term viable producers and service operators until investments resume.
- Streamline regulations and develop a clear framework on environmental requirements; ensure regulations are the most cost-effective and efficient options to encourage investment in Canada versus abroad.
- Rebuild investor confidence with a clear signal that the Government will be actively collaborating with the resource sector, which it recognizes as a critical part of the solution for a net-zero world, over the long term.
- Implement the first Resources of the Future Economic Strategy Table recommendations and further invest in transport infrastructure, as well as reduce cross-sector conflicts (e.g., competing for rail space with agricultural commodities) to improve long-term competitiveness and reduce pricing discounts.
- Support natural resource sectors in becoming global sustainability and circular economy champions, in particular the oil and gas sector, by providing decarbonization incentives, developing a comprehensive plan for emission reduction, and highlighting their ESG performance, among other things.

What we heard

- "Liquidity pressures are impacting continued investments into oil extraction and drilling projects—many have shut-in operations"
  – Oil and gas executive
- "Regulations are too prescriptive and not outcome-oriented. This limits the actions industry players can take and unnecessarily prolongs timelines. These requirements are also not cohesive across provinces and territories and different levels of the government"
  – Oil and gas executive
- "Canadian players are at a disadvantage globally due to the lack of pipeline capacity"
  – Oil and gas expert
- "Natural resources is one of our competitive advantages. There is opportunity to position Canada as a leader in cleaner resources"
  – Former university president

107 NASDAQ – https://www.nasdaq.com/market-activity/commodities/lbs (Accessed October 2020)

Advanced Manufacturing

Canada has historic areas of strength in manufacturing—automotive, aerospace, food, and machinery manufacturing. Sectors such as aerospace have even been a point of national pride. Together these sectors are important to economic factors like R&D activity and exports. Since the early 2000s, however, some manufacturing sub-sectors have been declining in terms of GDP contribution (from approximately 16% to around 10%)[108] and employment levels. The impact of the pandemic has been mixed but significant. Overall, sector exports and GDP contribution fell by over 30%.[109] In terms of the sub-sectors, automotive, aerospace and machinery faced an especially negative impact. Since the onset of the pandemic, aerospace saw no new orders and recovery is expected to take three to five years. Food and chemical manufacturers were comparatively less affected and are recovering to levels of GDP contribution similar to those in 2019.

> "Building back better… leveraging almost 200 years of Canadian manufacturing success in building products to advance society, the economy and our quality of life. This next chapter will produce (build) the products that Canada and the world need for a more sustainable and prosperous future by focusing our efforts on driving innovation, leveraging digitization while balancing the need for workforce diversity and the environment. Building back better in Canadian manufacturing will continue to advance society, the economy and our quality of life."
>
> *– COUNCIL MEMBER: RHONDA BARNET, PRESIDENT & COO, AVIT MANUFACTURING*

Sectoral pain points:

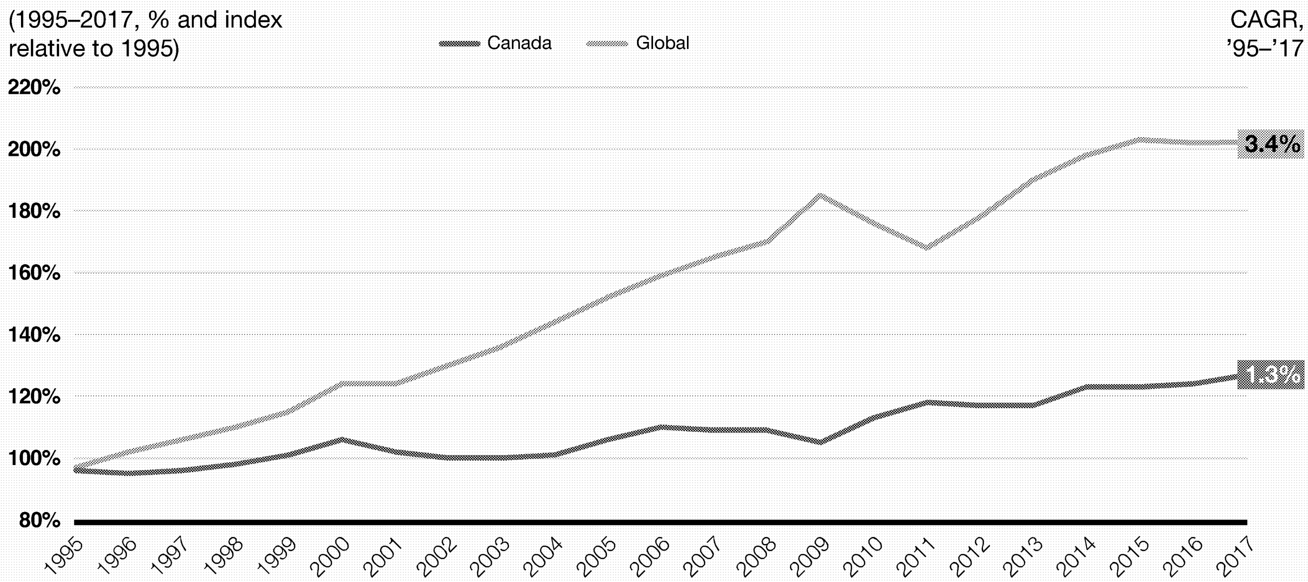
- Productivity has lagged in Canadian manufacturing firms and the pandemic has accelerated the need for improved productivity both for competitiveness and resiliency. While global manufacturing productivity has more than doubled since 1995, Canada's productivity has increased at a much slower rate (approximately 20%) over the same period, as capital investments in innovation slowed.[110]

As of 2018, Canada's robot density in manufacturing was 13th ranked globally—less than ¼ the density of the leading nation, South Korea. Additionally, investment in innovation has been approximately 30 to 40% of competing nations such as France and USA in the R&D intensive industry of aerospace.[111]

- Female and minority workers in manufacturing were disproportionately impacted at the onset of the pandemic and have since recovered fewer jobs, negatively affecting important employment gains. Before the onset of the pandemic, female employees in the manufacturing industry were making employment progress. However, since then much of this progress has been lost. Though representing approximately 30% of jobs, female employees made up 38% of the 300,000 job losses in the sector. Equally troubling, female employees represented only 15% of the 79,000 jobs recovered. Job losses were most acute for women with young children.[112]
- Two of the largest aerospace clusters—US and France—benefited from substantial defense procurement and public sector support. In contrast, the Canadian sector risks consolidation, loss of domestic ownership, and loss of global relevance without additional support.

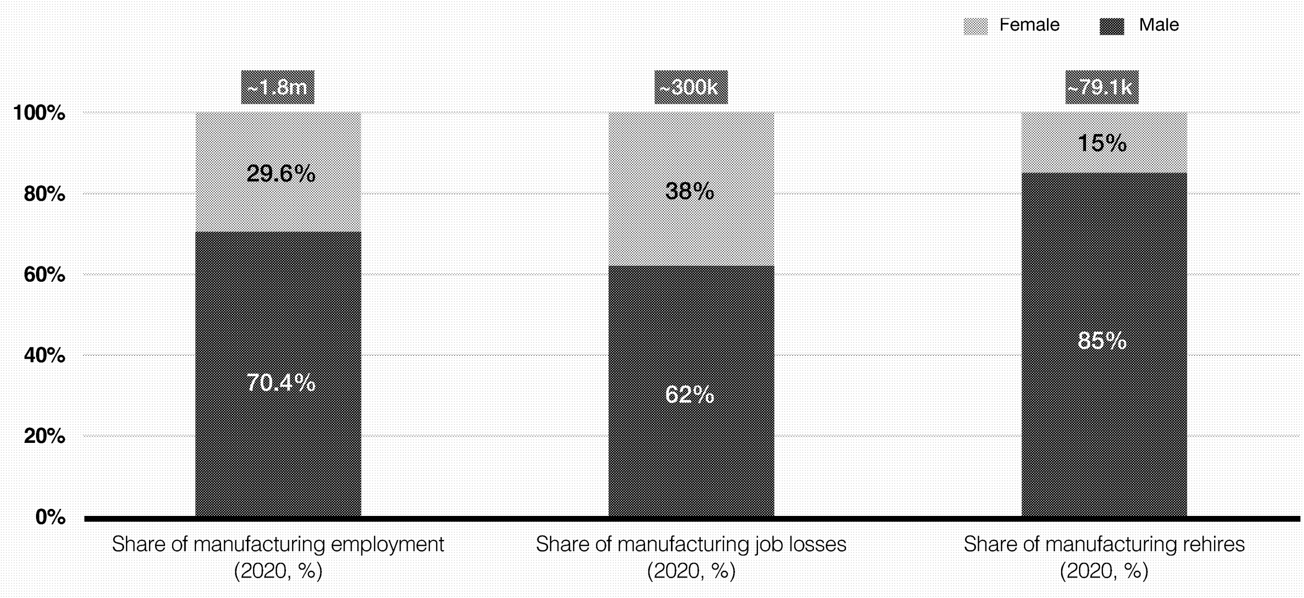
108 Statistics Canada – Statistics Canada Table: 36-10-0434-02 (Accessed October 2020)
109 OECD – OECD (2020), GDP per hour worked (indicator). doi: 10.1787/1439e590-en (Accessed October 2020)
110 OECD – OECD (2020), GDP per hour worked (indicator). doi: 10.1787/1439e590-en (Accessed October 2020)
111 International Federation of Robotics (IFR) – https://ifr.org/news/robot-density-rises-globally/ (Accessed October 2020)
112 Statistics Canada – Statistics Canada Table: 14-10-0022-01 (Accessed October 2020)

Figure 13: Manufacturing productivity as GDP per hour worked



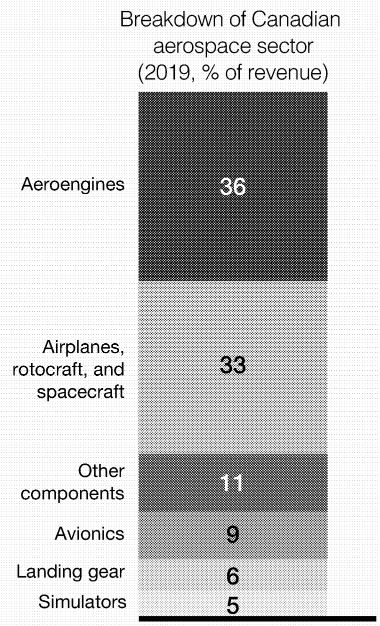
Source: OECD, GDP per hour worked, 2017 (Accessed July 2020)

Figure 14: Share of manufacturing employment, job losses and rehires



Sources: Statistics Canada. Table 33-10-0232-01; Statistics Canada table 14-10-0022-01 (Accessed June 2020)

Figure 15: Overview of Canada's aerospace sector



Segments	Example company	Implication from pandemic
OEM / Tier I – Non-Canadian ownership	THALES, Pratt & Whitney, AIRBUS, SAFRAN	**Foreign investment reduction and manufacturer rationalization:** • OEMs see more upside in domestic investments • **Accelerated by Canadian inaction** relative to competing nations (e.g., France's €15B aerospace plan)
OEM / Tier I – Canadian ownership	BOMBARDIER, HÉROUX DEVTEK, CAE	**Substantially weakened financial position, leading to job losses:** • Some Canadian OEMs and Tier Is entered the pandemic in financial distress • Divestitures and job cuts already occurring with more planned
Tier II / III	SHIMCO, CENTRA, exactEarth	**Consolidation and loss of domestic ownership is a risk to this segment** • Canada's tier II / IIIs are more fragmented than in other regions • Fragmentation has put more small firms at risk of financial distress, with few potential Canadian acquirers

OEM: Original Equipment Manufacturer

Source: ISED, State of Canada's Aerospace Industry, 2019; Press search (Accessed July 2020); Expert interviews conducted by ISC

Taking action:

- Position Canadian manufacturing for the future in order to seize emerging opportunities and areas of new growth (e.g., support EV manufacturing, attract investments in hydrogen technology manufacturing, build skills and talent for Industry 4.0).
- Implement tax-based investment incentives to encourage technology creation and adoption, such as the next generation of autonomous manufacturing equipment that are directly tied to outcomes (e.g., tech investment, training, and commercialization, exports, and environmental performance).
- Support investment in innovation and commercialization to ensure Canadian products and IP development remain robust and differentiated (e.g., incentives that reward companies for turning domestically produced IP into locally produced products).
- Provide liquidity to support the Canadian aerospace sector, including anchor firms, as well as tier 1, 2 and 3 suppliers, and encourage investments to advance the future competitiveness of the Canadian aerospace sector, including investing in new technologies (e.g., biofuels, AI, autonomous technology).
- Reopen the border for selected deliveries and sale completions requiring in-person presence, particularly in the aerospace sector and heavy machinery manufacturing space (e.g., installation of equipment critical to delivery completion).
- Market Canada's brand for greater domestic and foreign purchases, with an added focus on B2B and B2G sales to increase the role of Canadian manufacturers on the global stage (e.g., launch a national and international marketing campaign such as #MadeBetterinCanada).
- Support demand in the automotive sector as sales "bump" disappears to ensure viability of Canadian firms (e.g., "Cash for Clunkers" program in January).

What we heard:

- "New demand has evaporated in the [aerospace] sector and while other countries like France have unveiled massive support for their domestic sector, Canada has done nothing."
  – Aerospace expert
- "In a higher cost labour market, productivity is essential. That is either built through unique, higher-value manufacturing, or large-scale automation and efficiency. Canada has not invested enough in either and productivity has suffered"
  – Manufacturing executive
- "One of the biggest challenges with R&D investments is predictability of supports like SIF and IRAP. At the start of the year I don't ever have visibility into actual R&D budget which makes planning projects a challenge"
  – Manufacturing executive

Retail

Retail is one of the major sectors of the Canadian economy (5.2% of GDP, 13% of employment), which employs more women, youth and new Canadians than any other sector.[113] Before COVID-19, discretionary retailers (e.g., department stores, apparel, etc.) were losing market share to large e-commerce players. With COVID-19, discretionary retailers have been among the hardest hit. On the other hand, non-discretionary retailers saw their sales increase during the early stages of the pandemic, as households stockpiled essential goods and shifted to more at-home dining.

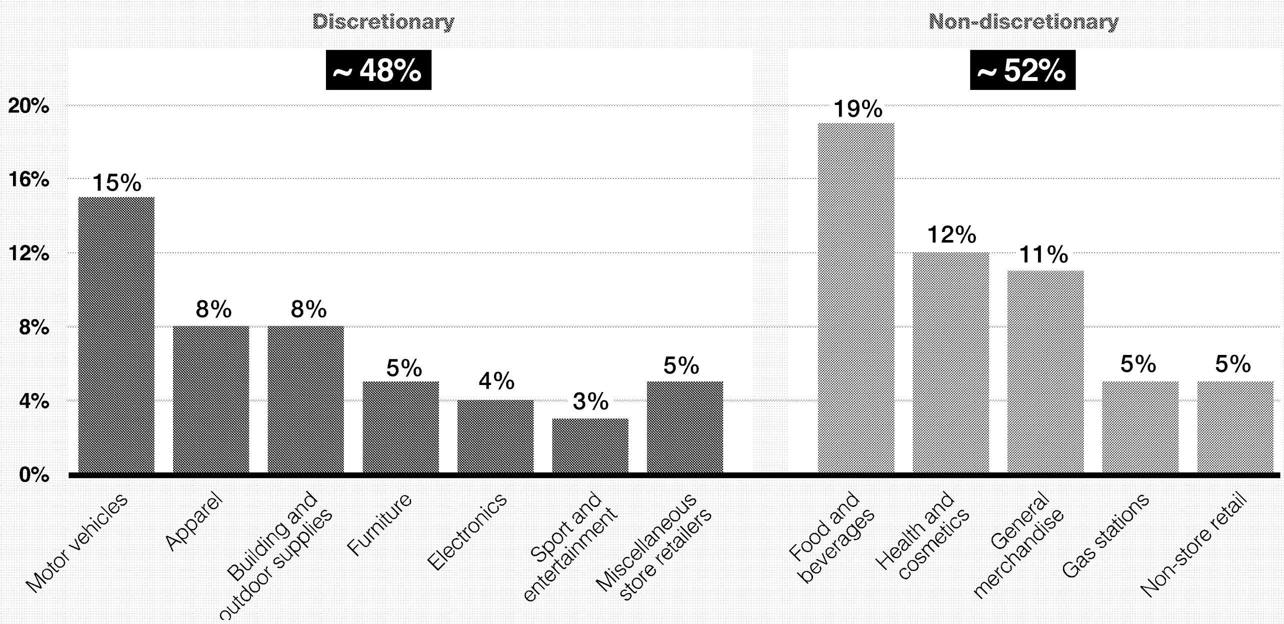
The latest sales figures show the share of e-commerce in retail sales has increased to record levels as COVID-19 shutdowns drove Canadians to make an increased number of their purchases online.[114] Other key forces affecting the sector include the fall in consumer confidence; store closures; erosion of profit margins due to higher costs to comply with new health and safety standards; the shift to digital sales; labour shortages due to disincentives to return to work; and inventory disruptions, partly as a result of border closures and availability of credit.

> "Discretionary retail has been particularly hard hit by the pandemic significantly impacting the livelihoods of many Canadians particularly women, youth, minorities and new Canadians. Rebuilding the sector is critical to both employment and the economy and requires action to ensure we restore consumer confidence, invest in e-commerce and have targeted programs in place to support businesses over the short to medium term with liquidity, credit and rent payments."
>
> – *COUNCIL MEMBER: PAVITER BINNNING, PRESIDENT, WITTINGTON INVESTMENTS LIMITED*

113 Statistics Canada – Statistics Canada Table: 36-10-0434-02 and Statistics Canada Table: 14-10-0023-01 (Accessed October 2020)
114 The Globe and Mail – https://www.theglobeandmail.com/business/article-online-retail-sales-doubled-as-canadians-turned-to-e-commerce-during/ (Accessed October 2020)

Figure 16: Retail GDP by sub-sector

(2019, % of GDP contribution)



Source: Statistics Canada, Table 36-10-0434-04 (Accessed July 2020)

Sectoral pain points:

- Prior to COVID-19, sub-sectors within retail were performing unevenly: grocery and pharmacy were stable, while discretionary sectors (e.g., department stores, apparel), were suffering due to significant pressure from large e-commerce players. Store closures due to COVID-19 exacerbated this pressure on the discretionary sector.
- Confidence in the Canadian economy remains low and retail traffic remains well below historical levels.
- Many SMEs lack the digital infrastructure needed to capitalize on consumers' shift to e-commerce (in-person channels are anticipating twice the revenue drop in 2020 compared to e-commerce).
- There are liquidity and margin pressures as retailers rushed to liquidate spring inventory and used working capital to purchase summer and fall inventory upon reopening. Retailers also incurred costs in the shift to digital, adapting to changes in vendor insurance terms, and ensuring adequate health safety standards.
- Discretionary retailers continue to struggle with accessing liquidity and credit, while also dealing with higher costs. The uncertainty about subsequent waves of COVID-19 could further dampen consumer confidence. The sector also has to contend with the long term impact of changes in consumer foot traffic at brick and mortar stores in both urban and suburban areas. The pandemic has sped up restructuring and bankruptcies; this will have a disproportionate effect on women-owned businesses (2020 revenues down at double rates compared to others), discretionary retailers and SMEs.[115]

115 Industry Strategy Council – Small Medium Business Survey (June–July, n=726)

Taking action:

- Encourage SME retailers to shift to digital so they can improve competitiveness against e-commerce giants and capitalize on the shift in consumer behaviour (e.g., through financial incentives); ensure that capacity and infrastructure are in place to support the shift to digital across the retail value chain (e.g., shipping and delivery, access to broadband) and speed up regulatory approvals and permitting to support digital technology.
- Rebuild Canadian consumer confidence by collaborating with the private sector on safety and managing outbreaks, as well as providing targeted relief to vulnerable households to maintain non-discretionary spending.
- Boost domestic consumption to raise revenues of impacted businesses (e.g., visibility of local product clusters).
- Consider extending targeted liquidity, credit and rent relief to hardest-hit retailers, prioritizing firms with healthy financial prospects prior to COVID-19 and adopting best practices from similar programs in other countries (e.g., vendor insurance).
- Address implications of restructuring on vulnerable workers—including women, new Canadians and youth—and consider measures to support future employment (e.g., reskilling of head-office employees and retail store staff).

What we heard

- "Although discretionary retailers have invested in online infrastructure, there are significant concerns around whether Canada Post will be able to service the increased demand, especially heading into the holiday season."
  – CEO, retail business
- "Retailers that rely heavily on foot traffic are struggling. Across discretionary retail, traffic both on high street (in city centers) and in malls, is significantly down as consumers are still nervous to enter indoor locations."
  – CEO, retail business
- "Cost of payments is a huge friction point with the shift to digital. Before, retailers were paying $7B in interchange fees, but the traffic has, and will continue to increase substantially, going straight to the bottom line."
  – CEO, retail business
- "Women represent a disproportionate share of front-line workers and business owners in retail. Response measures that support retail jobs also disproportionately support women's jobs."
  – Industry leader

Tourism and Hospitality

The tourism and hospitality sector was experiencing year-over-year growth prior to COVID-19. Responsible for 4.9% of Canada's GDP, it provided more than $25B in tax revenues and employed around 13% of Canadians, dispersed widely among urban and rural communities across Canada.[116]

Its presence in key regions outweighed the impact of several other major industries. The sector's activities have typically conferred significant social benefits, such as regional development, urban revitalization and resilient employment.

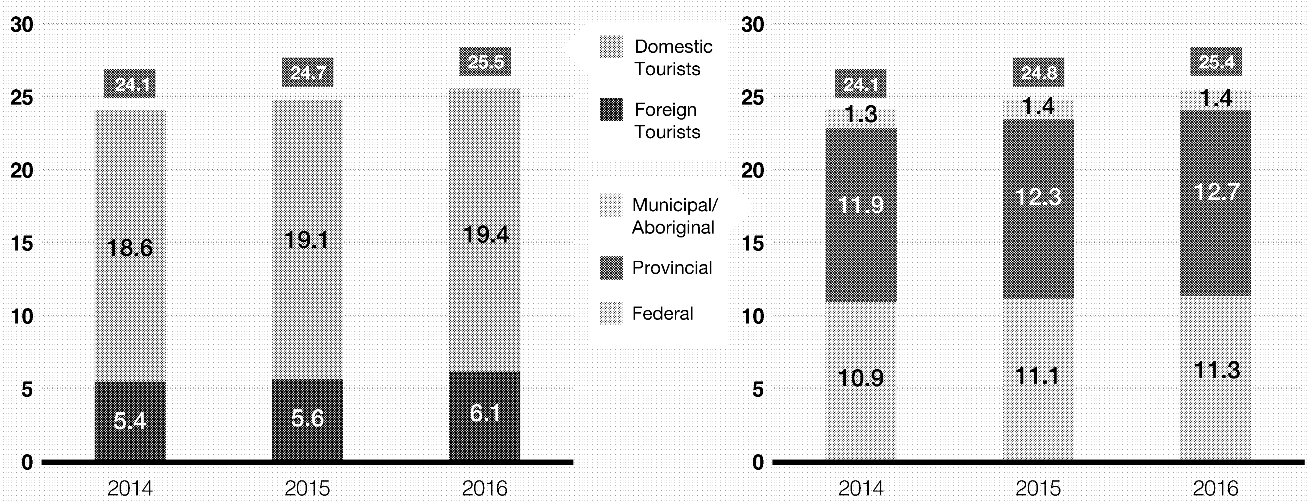
The tourism and hospitality sector has also been a driver of inclusivity, with greater ownership of SMEs by women, Indigenous peoples, and visible minorities compared to other sectors.

The COVID-19 crisis has almost completely decimated anchor attractions that were the lifeblood of their communities' tourism and hospitality industries, such as the amusement, gambling and recreation industries, museums, historical sites, hotels and accommodations, food services and drinking places. Some of these establishments, like restaurants, are cornerstones in our communities, both economically and culturally. Many Canadians also get their first job in the industry, pay for college, or make a career there.

While federal programming efforts in tourism have typically lagged behind support for other rural sectors (e.g., agriculture), the sector will need support to revive domestic demand. Other opportunities for growth will depend on increasing attraction to adventure tourism. Canada has a global brand and reputation as a top nature-based destination, benefiting from more than 100 world-class attractions (e.g., Garibaldi Park, BC; Prince Albert Park, SK; Drumheller, AB; Eastern Townships and la Gaspésie, QC; Auyuittuq Park, NU).

Figure 17: Tourism contributions to government revenue

(2014–2016, $ and billions)

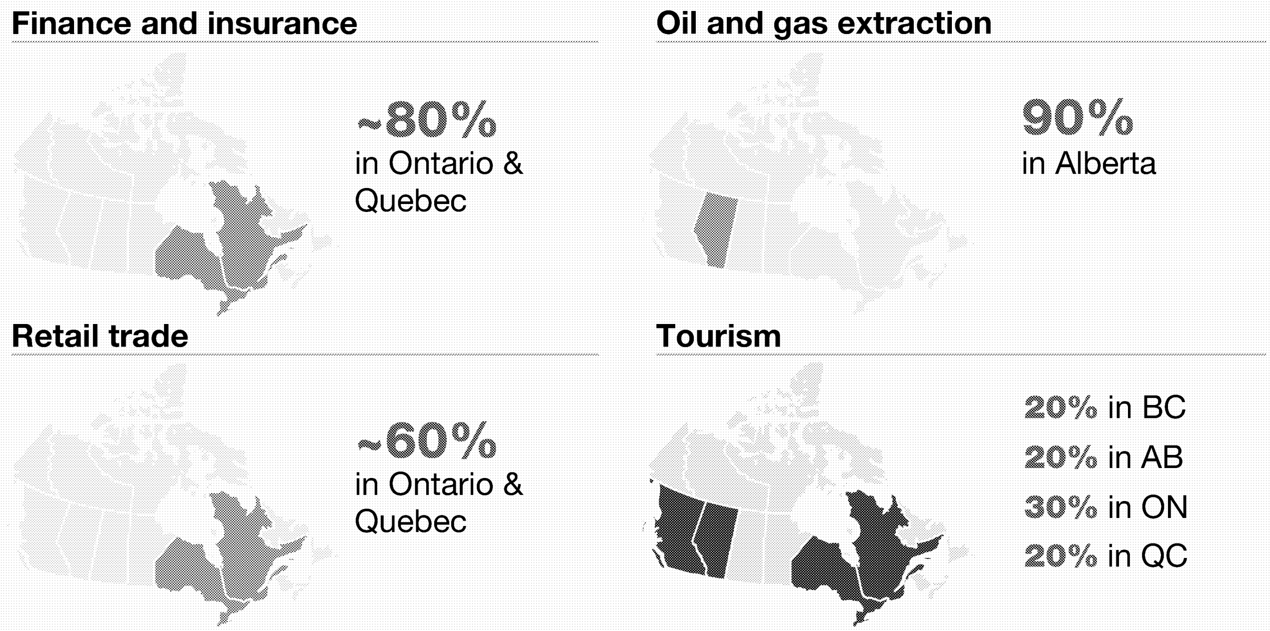


Source: Statistics Canada, Table 36-10-0461-01 (Accessed July, 2020)

116 Statistics Canada – Statistics Canada Table: 36-10-0434-02 (Accessed October 2020)

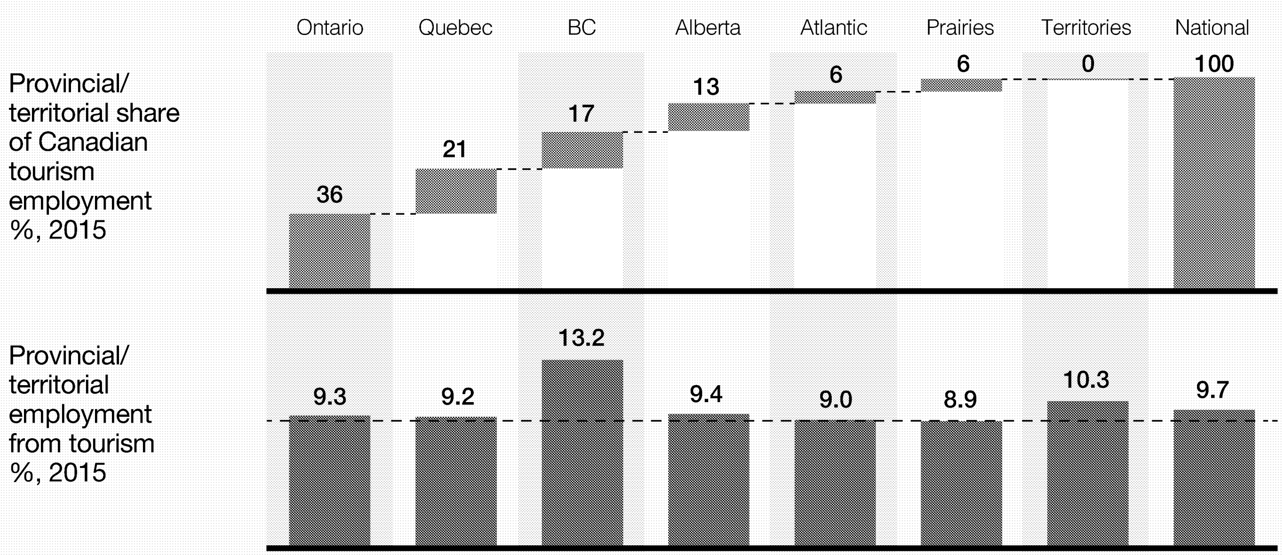
Figure 18: Provincial/territorial share of GDP by sector

(2017, % share of GDP by sector)



Sources: Statistics Canada, Table 36-10-0402-01; Statistics Canada, Canadian Tourism Satellite Account, 2015 (Accessed July, 2020)

Figure 19: Provincial/territorial tourism employment and share of Canadian tourism



Sources: Statistics Canada, Canadian Tourism Satellite Account, 2015; Statistics Canada, Provincial-territorial human resource module of the Tourism Satellite Account, 2015 (Accessed July, 2020)

> "As an extremely important sector that makes up approximately 10% of Canadian jobs, tourism and hospitality was hit first and hit hardest by the pandemic. 2019 was a record-breaking year for Canadian tourism and success was felt across the country, but 2020 has brought unemployment and, along with it, a difficult path back to our earlier success. As a key part of the fabric of our country, we know we can rebuild our world-class sector to once again help carry Canada's brand to a global audience."
>
> *– COUNCIL MEMBER: BEN COWAN-DEWAR, CO-FOUNDER AND CEO, CABOT LINKS*

Sectoral pain points:

- Tourism revenues are uniquely impacted by the COVID-19 pandemic, which struck at the start of tourism's busiest and most profitable time. The summer season, which represents close to 60% of annual revenues for this sector, was a loss for many tourism businesses.[117] Despite an overall decline in traffic, selected tourism clusters, including natural parks, benefited from a surge in domestic tourism, though it was less lucrative.
- Structural damage to the sector is expected to be widespread without urgent adoption of relief measures, as companies run out of liquidity to sustain operations. Indeed, 80% of businesses are at risk of failure without further intervention, and recovery is not expected until 2023.[118]
- Consumer concerns about health and safety are expected to subdue demand in the medium term, making overcapacity the new normal.

Taking action:

- Provide patient capital and quasi-capital that allows anchor firms in the sector to weather subdued demand and overcapacity in the medium-term, leveraging best available instruments.
- Develop new financing models beyond traditional debt-based instruments (e.g., joint equity funds, revenue pooling, securitization instruments) that can unlock recovery and growth opportunities in sectors such as tourism and hospitality, in collaboration with key partners (Crown agencies, financial institutions, institutional investors).
- Accelerate the restart of domestic and international travel, adopting innovative ways to manage risks and rebuild confidence, namely:
  - Provide free testing upon arrival as part of a risk-based framework to accelerate the recovery of international travel.
  - Collaborate with provinces and territories to revisit inter-provincial border closures and coordinate a rapid effort to restart domestic travel (e.g., through promotions and communication).
  - Create travel agreements with other low-risk countries.

117 Destination Canada – https://www.destinationcanada.com/sites/default/files/archive/1005-Sustaining%20Canada%27s%20tourism%20sector%20through%20COVID%2019%20%28Pages%201%20-%2029%29/Sustaining%20Canada%26%23039%3Bs%20Tourism%20Sector%20Through%20COVID-19_Pages%201-29_EN_2020-04-20.pdf (Accessed October 2020)

118 Industry Strategy Council – June–July SMB survey, n=726

What we heard

- “There is going to be a nuclear winter for tourism businesses if we don’t provide immediate relief. Business will be bankrupt by the fall.”
  – CEO, tourism industry association
- “We need to restart domestic tourism in order to stabilize the sector, and then think about a safe restart of international travel. Other countries have adopted innovative ways to manage risks, like mandatory testing for all travellers entering the country and weekly tests for all hospitality workers.”
  – Tourism executive
- “The sector needs patient capital. The priority should be saving the businesses we have, because if we allow them to go under, then we will have to do a lot more rebuilding.”
  – Tourism executive
- “Building consumer confidence is a critical component in restaurant survival. Restaurants have some of the strictest health measures in place … and there is very little data to suggest people are being exposed to danger at restaurants.”
  – Pan-Canadian business association

Transportation

Transportation plays a key role in the Canadian economy, accounting for approximately 4% of GDP and 4.5% of employment.[119] While freight is the largest sub-sector of transport, air travel is critical to the economy, especially for a country such as Canada with its dispersed geography.

The transportation sector experienced one of the most severe shocks and will take the longest to recover (recovery not expected before 2024) with air travel and transit more impacted than freight-reliant sectors. Air travel, a sector that is critical to the economy, has seen an approximate 50% drop in GDP in 2020.[120] Accordingly, governments around the world have announced significant fiscal stimulus measures.

119 Statistics Canada – Statistics Canada Table: 36-10-0434-02 and Statistics Canada Table: 14-10-0023-01 (Accessed October 2020)
120 Statistics Canada – Statistics Canada Table: 36-10-0434-02 (Accessed October 2020)

Figure 20: Fiscal stimulus measures by peer governments for air travel

Nationalize Alitalia

90% of KLM payroll covered by gov't for 3 months

$32B in grants for airlines + cargo carriers, contingent on companies maintaining >90% of payroll

$510M loan in two tranches at interest rate of ~7%

$29B in loans for airlines and cargo carriers

$715M in fee waivers, including **$159M** in reimbursements for fees paid in 2020

Reduced corporate and capital gains taxes

Allowing airlines to issue vouchers with passenger consent

Four month suspension of 'use it or lose it' slot rules

2/3 of Hong Kong's **$129M** package is in waivers for air traffic control charges for 2019–2020 fiscal year

Airport landing, parking and facility fees deferred

Source: Government press releases, press searches, 2020 (Accessed September 2020)

Sectoral pain points:

COVID-19 has both introduced new and highlighted existing pain points in the transportation sector:

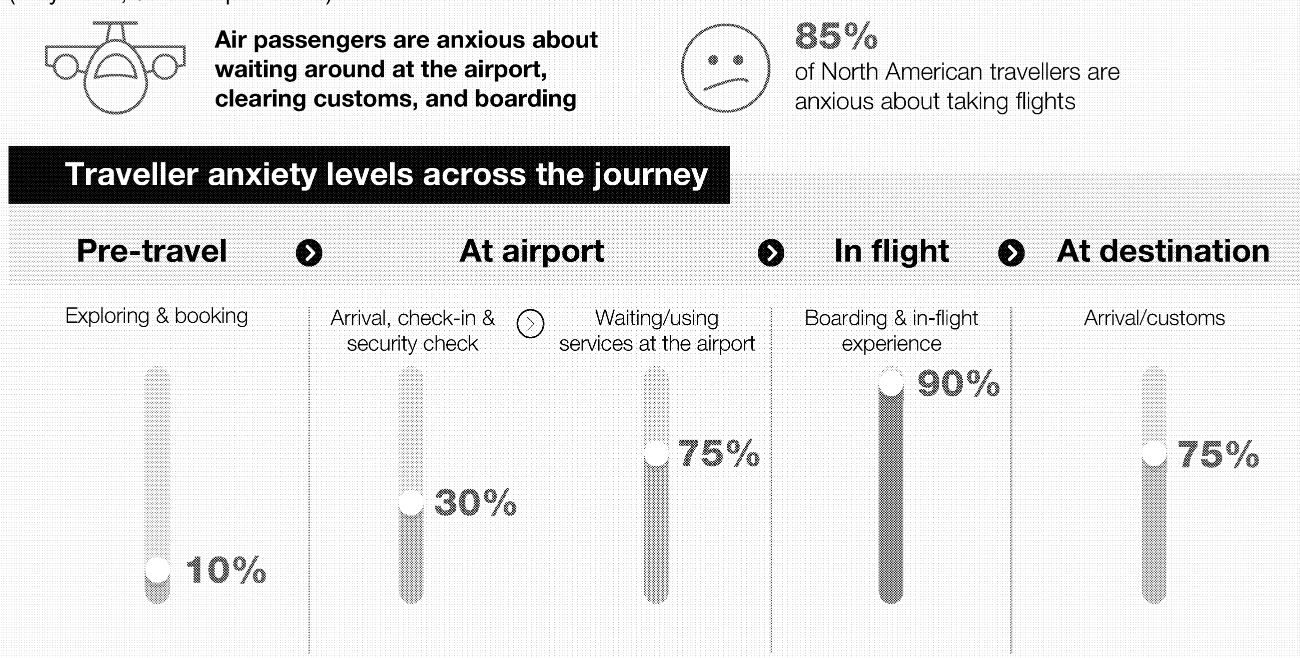
- A catastrophic drop in users has created extreme stress in a user-pay system, which requires urgent assistance to avoid collapse.
- Transportation businesses are not expected to recover until 2024, as high capital costs make it difficult to scale down.
- International air travel bans, border closures, and consumer anxiety reduced air traffic, resulting in revenue declines and considerable job losses for airlines and airports, and the elimination of regional routes that may be critical for regional economic growth.
- The impact of labour shortages in the freight sector is further emphasized as COVID-19 makes the work in this sector harder to perform—there is, for instance, a rise in safety concerns for truck drivers, and for sailors who are unable to dock and return to Canada.
- Some elements of our critical trade and transport infrastructure are outdated, over-congested and suffer from a lack of data and limited funding. In recent years there have been public and private infrastructure investments that have increased efficiency and client service. Nonetheless, the gap between the required investment in infrastructure and the funds available causes issues such as lack of capacity at western ports, and less affordable public transport services compared to those in European cities.

- Government mandated lockdowns are reducing the need for transit, with usage declining by approximately 60% in Toronto and Montréal.[121] However, the demand is expected to rebound once restrictions are lifted, as seen in Hong Kong and Auckland.
- Concerns about supply chain resiliency may lead to reshoring and dual sourcing, potentially increasing freight volume and shifting access across Canada's ports.
- Downturn in the manufacturing and energy sectors is impacting freight volume (e.g., production stoppages in auto and aerospace manufacturing has reduced trade by approximately 50% since January), while decline in demand for crude oil and shut-ins have reduced trade, primarily exports, of energy products by approximately 50%.[122]

> "The situation we are going through calls upon all our abilities to innovate, work together and create a new sustainable environment conducive to a growth-enhancing economic recovery. The hard-hit transportation sector is mission-critical to all economic sectors. With the right support, it will once again prove its role as a leading economic catalyst. I am proud to carry the transportation industry's message."
>
> *– COUNCIL MEMBER: SYLVIE VACHON, PRESIDENT AND CEO, MONTREAL PORT AUTHORITY*

Figure 21: Air passenger confidence

(May 2020, % of respondents)



Source: McKinsey & Company Report, "Make it better, not just safer: The opportunity to reinvent travel", June 15, 2020 (Accessed July, 2020)

121 CBC – https://www.cbc.ca/news/canada/coronavirus-covid19-public-transit-1.5509927 (Accessed October 2020)
122 Statistics Canada – Statistics Canada Table: 12-10-0121-01 (Accessed October 2020)

Taking action:

- Provide targeted liquidity measures for critical aviation players, airports, and transit systems, to facilitate recovery in line with taxpayer expectations and what is done in other competitive jurisdictions.
- Selectively reopen borders with low-risk countries (e.g., travel "bubbles" or "corridors") and for highly critical workers (e.g., automotive workers) to accelerate recovery of air travel.
- Establish adequate safety protocols and invest in supporting infrastructure to increase consumer confidence (e.g., contactless journeys, seat reservation app for transit that help manage both capacity and safety, and fast testing to increase travel).
- Develop inclusive targeted programs to address labour shortage in freight (e.g., truck drivers), and support reskilling on advanced technologies to accelerate adoption across all transport modes.
- Incentivize the adoption of intelligent systems and predictive technology to increase efficiency and reduce congestion (e.g., air traffic control systems that better manage air traffic in dense airspace, reduce aircraft noise, and reduce aircraft emissions, and modern signalling and automatic control systems to improve rail efficiency and safety).
- Invest in road and trade infrastructure to improve intermodality and reduce congestion (e.g., adding routes or trains to transit system, reducing reliance of ports on just railway, additional trading hubs to support changes in potential trade patterns).

What we heard

- "Relief for the Canadian aviation sector is both a critical infrastructure and global competitiveness issue. Canada is at a structural disadvantage currently compared to US and European benchmarks due to its reliance on the user-pay model."
  – Airline executive
- "Air transportation is necessary to connect our country coast to coast. This is particularly critical in a country like Canada, which is geographically dispersed, and where access to rural communities may be limited."
  – Airline executive
- "Long-haul drivers have a ~9% job vacancy rate, significantly higher than the national unemployment average of 3%."
  – Logistics company executive
- "We have many transport infrastructure projects underway but these are not necessarily strategic—ports and railways in particular are also underfunded."
  – Transportation expert

Agri-Food

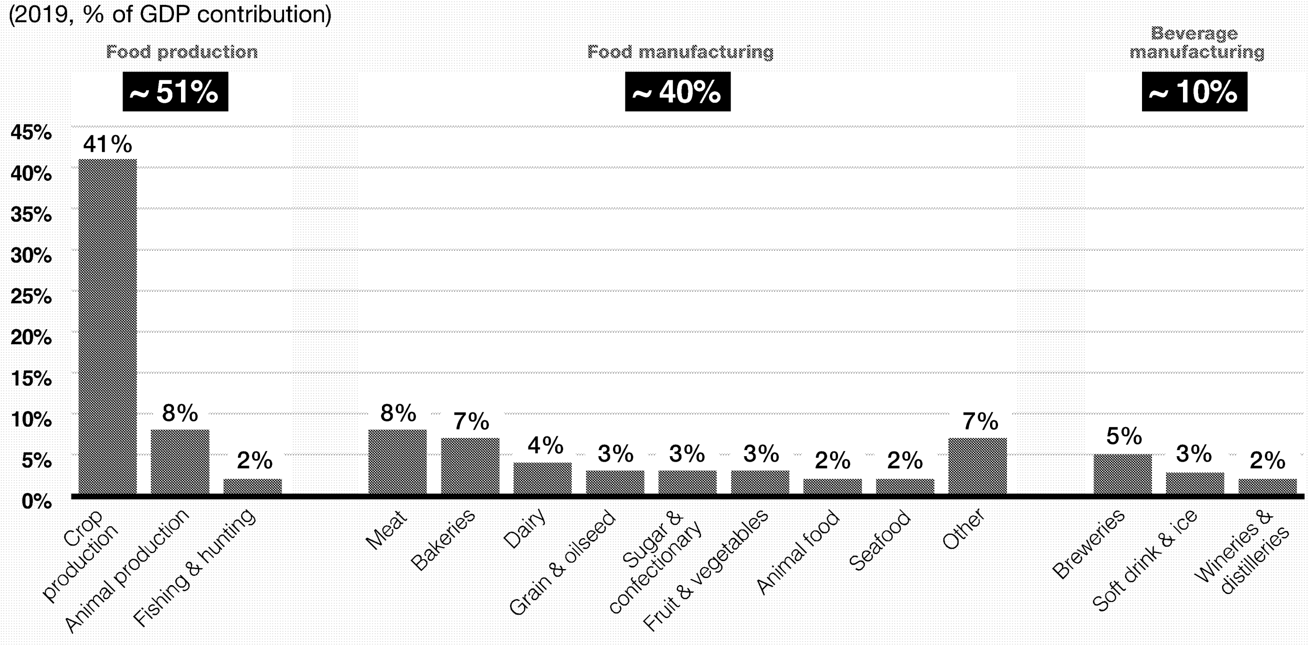
Agri-food is a key sector of the Canadian economy (3.5% of GDP, 2.7% of employment).[123] It is a life-line of nourishment but also an important driver of economic growth and trade surplus. Canada could offset losses from other sectors by doubling down in agri-food, which has been one of the industries least affected by the pandemic (GDP contribution rose 2% in June). Furthermore, with strategic digital investments and technology adoption, the sector would be well positioned to leverage efficiencies in production, improve traceability and trust amongst Canadians, and enhance food safety.

However, this sector has had to deal with new challenges, including the fact that ensuring the safety of employees and consumers now requires more time and resources; increased shipping costs and times; and shifts in demand that require repositioning traditional production and delivery models. The sector also continues to face increased labour shortages and other pre-pandemic pain points.

> “The world’s shortage of fresh water and arable land presents an opportunity for Canada to lead the efforts to feed the growing world population and the consumer of the future. Our sustainable agriculture, when powered by our efforts to digitize and produce value added food, fuel and fibre from our commodities will be a compelling growth driver of the New Canadian Economy”
>
> *— COUNCIL MEMBER MURAD AL-KATIB, PRESIDENT AND CEO, AGT FOOD AND INGREDIENTS*

Figure 22: Agri-food GDP by sub-sector

(2019, % of GDP contribution)



Source: Statistics Canada, Table 36-10-0434-04 (Accessed August, 2020)

123 Statistics Canada – Statistics Canada Table: 36-10-0434-02 (Accessed October 2020)

Sectoral pain points:

- The pandemic has required agri-food businesses to adapt to demand and supply disruptions caused by the pandemic, notably by working with authorities to improve regulatory agility during COVID-19:
  - Lockdown measures significantly shifted demand for agri-food products from food services to retail grocery, creating inventory management disruptions as some producers and processors lack the flexibility to adjust to the new channel.[124]
  - Global production shutdowns and trade tensions temporarily boosted demand for Canadian agri-food exports, including grain and pork. However, simultaneous volatility in commodity prices may hurt the profitability of producers in the near term.
  - COVID-19 outbreaks in facilities led to temporary closures and created backlogs, especially in meat plants. A similar phenomenon in US processing plants exacerbated the impact on Canadian meat producers who rely on those facilities.
- Lack of broadband access in many rural locations limits innovation and adoption of productivity-enhancing technology (only 60% coverage across Canada).[125]
- Infrastructure and logistics bottlenecks risk disrupting the flow of goods and limiting Canada's ability to meet growing global demand.
- Limited value-added transformation impedes the ability of Canadian players to capture value from processing activities.
- Internal barriers to trade, including overlapping regulatory regimes, create a fragmented domestic market and hinder innovation and competitiveness.
- Labour shortages, an ongoing concern for producers, have been exacerbated by the pandemic. Despite exemptions from travel restrictions, decreased temporary foreign worker arrivals are creating worry over risks of more acute shortages for harvest season.
- Local producers are important actors in revitalizing regions and encouraging local purchasing; their contribution to the vitality of communities and to food security is important.

Taking action:

- Accelerate investments in trade infrastructure to address critical bottlenecks for the transport of goods.
- Develop a "Trade Corridors and Gateways National Infrastructure Plan" that addresses key multi-modal bottlenecks in rail, containers, and ports.
- Support investments in value-added transformation of raw goods, to allow Canadian players to capture a larger share of value from processing activities (e.g., plant-based protein, renewable fuels).
- Modernize regulatory system with a focus on increasing agility and removing internal trade barriers to enable the growth of the Canadian agri-food sector and help businesses achieve scale and become globally competitive.

124 https://www.theglobeandmail.com/business/article-as-restaurants-close-and-demand-for-groceries-surges-food/
125 Government of Canada – https://www.ic.gc.ca/eic/site/139.nsf/eng/h_00002.html (Accessed October 2020)

- Continue expanding international market access through bilateral agreements focused on removing tariff and non-tariff trade barriers.
- Accelerate broadband infrastructure investments to enable rural connectivity and increase the adoption of digital technologies to improve productivity across the sector.
- Incentivize digital investments across supply chains to enable key data collection that will allow the use of AI and predictive analytics to optimize production, lower pesticide use and bolster public trust in food safety and traceability in global food supply chains.
- Modernize the TFW Program to address pre-existing labour shortage in the long term.
- Become a leader in environmentally sustainable food production to address environmental challenges and respond to growing consumer focus on sustainability.

What we heard

- "Our general lack of digitization is in some ways a product of limited urgency, which we have now. Our challenge will be catching up to our peers and quickly in order to stay relevant"
  – Agriculture expert
- "Agri-food businesses won't be able to ramp up exports until we address the dire lack of infrastructure through targeted investments around trade corridors"
  – Agri-food executive
- "We need to create products that meet the needs new consumers focusing on nutrition, health and sustainability. We need to commercialize these opportunities to capitalize on the growth in middle incomes around the world, and market access is key to make sure we get these opportunities"
  – Agri-food executive
- "Canada is a world leader in agriculture, but we still have an 'extraction' mentality—building real value-added processing at home is key to enabling long-term sector growth"
  – Agri-food executive

Clean Technology

Canada's clean technology industry is united around shared sectoral interests, with an active ecosystem of companies, universities, clusters, incubators, accelerators, and industry associations. Comprising about 800 firms and representing approximately 3% of GDP,[126] the sector includes a diverse set of technologies at varying maturity levels and with cross- sectoral uses related to energy, water, agri-culture, forestry, waste management, biodiversity, minerals, and adapted goods, such as energy efficient equipment and sustainable mobility.

Clean technology is also an enabler of economic growth, environmental performance, and long-term competitiveness across sectors. It can contribute to reconciliation and equality through economic development, job creation, and climate resilience in Indigenous and remote communities. A vision for made-in-Canada clean technology that goes beyond innovation but that is specific to commercial success, economic impact, job creation, and contribution to climate goals, may enable a new conversation on energy, the environment, and the economy on common ground versus current polarization.

Figure 23: Technology areas within clean tech sub-sectors

(March 2019, # of technology areas in each sub-sector)

Clean tech sub-sectors as per Statistics Canada taxonomy		Number of technology areas
Environmental protection activities	Protection of air and climate, waste treatment and management, protection and remediation of soil, sediment and water	99
Sustainable resource activities		
Energy	Alternative fuels, renewable electricity, heat, smart grid & energy storage (CCUS and SMRs)	147
Water	Reduction of water use, water management and recycling	15
Agriculture, forestry and biodiversity	Agriculture, aquaculture, wild flora and fauna, forestry	22
Minerals	Green mining, substitutes to mineral-based materials	7
Adapted goods	Energy efficient equipment, sustainable mobility	42

Source: Statistics Canada, Catalogue no. 16-511-X, Clean technologies and the Survey of Environmental Goods and Services: A technical reference guide, March 2019 (Accessed July, 2020)

126 Statistics Canada – https://www150.statcan.gc.ca/n1/daily-quotidien/181217/dq181217d-eng.htm

> “Achieving Canada's net-zero future by 2050 requires a focused industrial strategy that accelerates innovation timelines and drives the rapid commercialization of clean technology across all sectors of our economy. Canada has the skills and the ambition to lead the world in achieving a low-carbon future but the work to deploy and scale made-in Canada clean technology and grow and retain the clean technology companies of the future must happen now.”
>
> – COUNCIL MEMBER: KAREN HAMBERG, VICE PRESIDENT OF EXTERNAL AFFAIRS AND SUSTAINABILITY, WESTPORT FUEL SYSTEMS INC.

Canada has growing competitive advantages in clean technologies, such as hydrogen production, water technologies, renewable energy smart grids, batteries and energy storage, waste management, CCUS, SMRs, and sustainable transportation.[127] Though largely dependent on the US, Canadian clean technology exports have grown significantly since 2016.[128] The expected and rapid growth of global markets for clean technology will create new industries and value chains where Canada could compete by leveraging its unique strengths. To realize these benefits, challenges with the innovation landscape must be addressed as we position this sector for accelerated growth.

Sectoral pain points:

- A depressed innovation and commercialization landscape caused by border closures, travel restrictions, supply chain vulnerability, and market uncertainty which have led to delayed, deferred or cancelled funding deals, and may cause the loss of competitive market position in a sector that already lacks scale-up finance.
    - Government programs largely focus on early-stage innovation and research, not commercialization and scale-up.
    - Clean technologies are capital intensive with multiple capital gaps along the development timeline.
- Small and risk-averse domestic market, as well as the lack of stringent regulations benchmarked on best-available technology limit domestic adoption of clean technologies (both public and private) and access to global markets. This is further hindered by the COVID-19 pandemic, as domestic and international companies scale back spending on non-essential expenses.
    - While initially there were liquidity concerns due to project cancellations and revenue declines, recent reports suggest investor and government liquidity relief have helped prevent mass bankruptcies. However, ongoing economic slowdown and a small domestic market for clean technologies are creating a need for additional liquidity support, especially for pre-revenue firms.
- Talent gaps, especially entrepreneurial and business talent in financing, raising capital, business development, and product launch, are inhibiting acceleration of commercialization and scale-up. A diversity and inclusion focus is required, as the clean technology workforce is predominantly male. In 2017, 81% of clean tech SMEs were majority owned by men, compared with 64 percent of all SMEs.[129]

127 Global Affairs Canada – https://www.international.gc.ca/investors-investisseurs/assets/pdfs/download/vp-clean_technology.pdf (Accessed October 2020)
128 EDC – https://www.edc.ca/en/blog/global-markets-for-cleantech.html (Accessed October 2020)
129 Innovation, Science and Economic Development Canada – https://www.ic.gc.ca/eic/site/061.nsf/eng/h_03119.html (Accessed October 2020)

Taking action:

- Ensure our industrial strategy prioritizes the commercialization and scale-up of Canadian firms and their enabling clean technologies (e.g., decarbonization, circular economy, organic solutions, etc.) that creates an industrial base of clean technology companies that can be globally competitive/dominant players.
- Mobilize capital (including patient capital) to drive a sustainable economy and private sector investment into priority clean technology areas, especially for scale-up and to aggressively accelerate deployment of next-generation clean technology systems.
- Provide targeted support for clean technology in high priority areas where Canada has competitive advantages (including but not limited to):
  - Producing hydrogen (blue, green, grey) fuel at scale and building associated infrastructure for domestic consumption and export.
  - Developing a CCUS hub in Alberta, in collaboration with oil and gas, to reduce local emissions and develop exportable expertise.
  - Building the battery supply chain (from critical minerals to EVs) in Canada to meet North American and global supply needs.
  - Making Montréal the world-leading hub for sustainable aerospace and aviation including R&D support for aviation firms and biofuels.
  - Advancing Canada's clean technology strength in renewable energy, biofuels, energy storage, smart grids, transportation, waste management, energy efficiency, SMRs and water technologies.
- Prioritize and accelerate the deployment of market-ready, commercially available made-in-Canada clean technology across sectors to achieve 2030 targets; align with industry on decarbonization pathways and market potential for clean technology; determine priority investments to compress innovation timelines; and remove regulatory barriers.
- Accelerate global market access through export strategy to realize $20B by 2025 target, including trade agreements with partners outside of the US.
- Expand public procurement to accelerate demand of made-in-Canada clean technology and incentivize industrial deployment. Facilitate connections between technology adopters and solutions providers, including in Indigenous communities, and the provision of domestic reference markets for technology demonstration.
- Establish focused strategy and action plan with targets to source, develop, and grow both technical and business talent available to clean technology from all industrial sectors while growing employment opportunities for underserved communities.

What we heard

- "We must rebuild with an industrial base that is stronger and better-positioned for the economy of the future not the economy of the past. There is a global competition for clean technology talent, capital, and entrepreneurs—we must be in the race."
  – Clean technology executive
- "There are no regulations to incentivize investment in clean technology. Domestic tech is also often seen as more risky, but there is an opportunity for government to de-risk these by adopting them first or incentivizing industry to be early adopters."
  – Clean technology executive
- "There is a global war for clean technology talent writ large. We must ensure that talent wants to come to Canada or stay in Canada to solve our environmental challenges and to build and scale the clean technology companies of the future."
  – Clean technology executive

Digital Industries

The sector is defined quite broadly to include firms that manufacture digital products, deliver services related to digital tools, operate with a digital operating model (i.e., digital natives), and support digitization of incumbent industries. When these firm types are included, the sector represents 2.9% of Canada's GDP and 1% of employment (excluding telecommunications firms).[130] The pandemic has had mixed impacts on digital industries. There are digital companies in hard-hit sectors like retail and air transportation that have seen major negative impacts, while other digital providers remained relatively steady with a small positive impact. Companies with a digital operating model have generally thrived both domestically and globally.

Digital technologies (AI, cloud computing, big data, IoT, blockchain, 3D printing, robotics) were already transforming life, business and government pre-COVID-19. The pandemic has accelerated the pace at which these technologies will be adapted because of the additional benefits they can provide during the crisis. COVID-19 has accelerated the shift to digital by 3 to 7 years,[131] dramatically increasing the use of digital tools for work, education, health care, thus creating new opportunities for digital natives. Those digital companies entering the pandemic with scale have been better able to capitalize on market opportunities. Governments around the world are developing policies and infrastructure to capitalize on digital investments and advance new technologies in support of productivity and innovation.

Outside of the digital sector, Canadian industries have significant room to enhance their digital posture. Canadian firms have typically underinvested compared to other OECD countries in technology adoption, and as a result, Canada's productivity from key sectors such as manufacturing and natural resources is lagging behind US firms in the same sector.

The World Economic Forum (WEF) has suggested that, for governments looking to drive economic recovery following the pandemic, supporting digital competitiveness will be key in the intangibles economy.[132] Digital firms require different policies and regulations to encourage investment given that digital business models differ from traditional brick-and-mortar businesses. Such measures could include data protection and data sovereignty, digital infrastructure, as well as other policies that encourage digital technology development. Improving these measures not only supports the growth of domestic firms, it is also key to attracting foreign direct investment (FDI) from digital firms.

Over the next decade, digitization is expected to transform the economy and the way businesses operate. As a result, businesses will look for help to adopt digital technologies and ensure they have the financial resources and skill sets to support it.

> “We are at a crossroads—in the next four years most of our world's economy will be captured by digital or by digitally transformed enterprises. We will either miss that opportunity and simply be digital consumers, or we can invest now and become the trusted builders of world-leading digital companies. This is a defining moment for Canada and for the future prosperity of Canadians.”
>
> *– COUNCIL MEMBER: JOHN BAKER, PRESIDENT AND CEO, D2L CORPORATION*

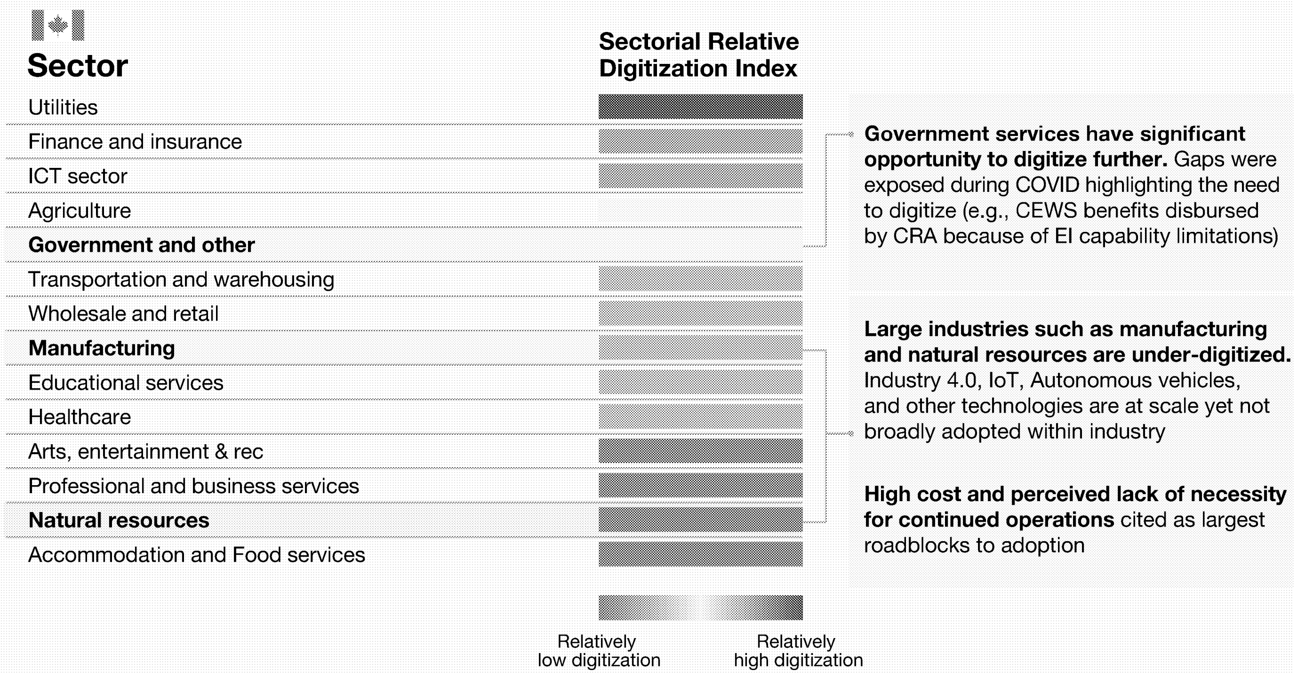
130 Statistics Canada – Statistics Canada Table: 36-10-0434-02 (Accessed October 2020)

131 McKinsey & Company – https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/how-covid-19-has-pushed-companies-over-the-technology-tipping-point-and-transformed-business-forever (Accessed October 2020)

132 World Economic Forum – https://www.weforum.org/agenda/2020/04/covid-19-digital-foreign-direct-investment-economic-recovery/ (Accessed October 2020)

Figure 24: Digitization index for Canadian sectors

(2018, degree of digitization)



Sources: IHS Global Insights, 2018; World Economic Forum, The Global Information Technology Report, 2015 (Accessed July 2020)

Sectoral pain points:

- Scaling digital companies has been a challenge in Canada and there is a gap in supports for upper-middle sized digital firms, which has resulted in firms selling early or underinvesting in growth.
- Brain drain of high-demand digital, tech, and analytics talent has plagued Canadian schools—in some fields, like software engineering, upwards of 66% of students leave Canada upon graduation.[133] The pandemic has, however, created opportunities.
- Commercializing IP in Canadian firms has been challenging, with <50% of the 350+ AI patents created in Canada since 2007 remaining in Canadian ownership and only about 2% of SMEs owning one or more patents.[134]

133 The Globe and Mail – https://www.theglobeandmail.com/business/technology/article-canada-facing-brain-drain-as-young-tech-talent-leaves-for-silicon/ (Accessed October 2020)

134 Jim Balsillie, keynote presentation at Canadian Manufacturing Technology Show - Canadian Manufacturing – https://www.canadianmanufacturing.com/features/who-owns-your-patent/ (Accessed October 2020)

Taking Action:

- Support a Digital Industrial Strategy – With support for upper-middle companies to become world leaders, a new Software R&D Infrastructure fund to create a full R&D strategy, lift the 500-person cap for upper-middle companies on programs (e.g., IRAP), and build a Global Canadian Digital Network (which could be called the Borealis Digital Network) with new trade outposts and routes globally.
- Government procurement – Increase share of software and technology procurement from upper-middle companies and remove bias against SMEs and upper-middle companies, as well as Indigenous-, visible minority-, or women-owned companies. Reduce project risks and stay nimble by using best-of-breed products with open Application Programming Interface (APIs) to make it easier to tailor, integrate and extract data. Work with SMEs and upper-middle companies to build new standards and to explore new technologies and roadmaps.
- Talent development and retention strategy – Offer incentives to high-demand digital talent to slow "brain drain" from Canadian institutions. Market Canada's strengths in innovation and entrepreneurship to build a stronger international reputation as a digital hub with opportunities on par with other global hubs. Develop a new strategy for skills development, including national digital learning infrastructure.
- IP and data strategy – Enhance support for IP education, micro-patent pools with upper-middle companies and academic partners, support IP costs within SR&ED programs for Canadian-controlled companies.
- Build economic and social benefits through smart and secure data sharing between organizations and across all sectors. Strengthen privacy to protect our citizens and to avoid undermining democratic rights, while unblocking hurdles for companies.
- Trade and FDI strategies – Trade negotiation strategies that strengthen Canada's intangibles sector and build new outposts and trading routes. Modify FDI policies to understand negative spillover effects of the intangible economy.

What we heard

- "Big companies will come to Canada. We are the only ones naïve enough to pay them to come here and not ensure enough benefit accrues to Canadians."
  – Artificial intelligence executive
- "Australia is very intentional about talent retention with incentives like fast tracks to citizenship for the most in-demand grads."
  – Tourism executive
- "There is very little pull from Canadian industry on universities, and most of universities' budgets are 200–300K, which means they are reliant on corporate investment for IP development. Unfortunately, a lot comes from outside of Canada."
  – Economic advisor

Health/Bio-sciences

The Health/Bio-sciences sector is one of the fastest growing industries in the Canadian economy (1.8% of GDP, 3% of employment).[135] The sector comprises businesses that operate in scientific R&D and commercialization in biotechnology, medical technology and digital/AI health technologies. A sustained increase in investments in Canadian biotech and med-tech firms in recent years, speaks to the growing momentum behind the innovation in the sector. As a result of some of that capacity, several Canadian teams are leading vaccine research efforts as government and private sector players globally have been mobilizing to fund and research COVID-19 treatments and vaccines.

The Health/Bio-sciences sector is expected to be affected by a range of demand and supply forces triggered by COVID-19. Since the start of the pandemic, there has been a surge in demand for critical medical products, devices and essential drugs. The pandemic revealed limitations in pharmaceutical supply chains as the world's main suppliers imposed slowdowns and export restrictions in China and India. Governments have had to consider a range of measures for reshoring and stockpiling, including retooling of Canada's manufacturing supply chains to produce high-demand PPE and devices.

COVID-19 also triggered an interruption in elective procedures, medical care appointments and clinical trials, which led to a drop in new prescriptions and medical device orders. Medical equipment manufacturers, as well as wholesalers of pharmaceutical and personal goods, were in turn impacted by the effects of the pandemic on the health care system. Pent-up demand is likely to drive a quick recovery as economic activity resumes and consumer confidence returns. To respond to these supply bottlenecks, the Government scaled up domestic procurement and manufacturing efforts, while Health Canada expedited the authorization of high-demand products through interim COVID-19 measures. These measures have created an opportunity to build on lessons learned. COVID-19 has highlighted the importance of a modern and agile regulatory system. As two examples, in response to the pandemic, the Government of Canada allowed temporary regulatory agility for accepting internationally recognized specifications for PPE, as well as regulatory agility and guidance on how clinical trials are conducted.

> "The impact of bio-science innovation on human health and well-being, and its impact on human economic well-being will grow exponentially during the course of this century. Canada is well positioned through its demonstrated strengths in science, discovery, innovation, entrepreneurship, and a well-educated, diverse and talented workforce to turn this opportunity into an innovation-driven economic engine. This is Canada's time, to unleash the best of our intellect, our competitive advantage and to mobilize innovation in every sector of our economy; building bold and better will secure a sustainable future for Canada."
>
> *— COUNCIL MEMBER: KARIMAH ES SABAR, CEO AND PARTNER, QUARK VENTURE LP*

135 Statistics Canada – Statistics Canada Table: 36-10-0434-02 (Accessed October 2020)

Sectoral pain points:

- Sourcing and procurement bottlenecks for active pharmaceutical ingredients (APIs), particularly those related to COVID-19 due to production stoppages in key countries (e.g., India imposed temporary export bans on 26 widely used drugs).[136]
- Need for value-based development and procurement: Value creation/IP-driven innovative medicines, digital and data solutions, devices, diagnostics, vaccines, procedures.
- COVID-19 highlighted the need to improve regulatory agility to secure access to essential devices and drugs. The Government's rapid adoption of flexible, interim approaches to health care management has shown how quickly it can evolve its processes when necessary.
- The adoption of digital health platforms, which was lagging before COVID-19, increased significantly during the pandemic and may become a long-term trend, with impacts for pharma and the med-tech value chain (47% of Canadians have used some form of tele-health during the pandemic).[137]
- The lack of growth capital and commercialization incentives was already leading to an exodus of large-scale biotech firms and top talent prior to COVID-19. It has also limited Canada's ability to benefit from the injection of capital into pharma and biotech amid COVID-19 (annual equity financing of Canadian biotech firms increased by 28% annually between 2014 and first half of 2020). There is an opportunity to anchor some high-growth companies.[138]

Taking action:

- Adjust health procurement and sourcing strategies to ensure resilience of domestic capabilities in line with areas of strategic focus.
- Collaborate with provinces and territories to adopt value-based procurement across Canada's health systems and in federal areas of health responsibility (e.g., consider expanding use of combined purchasing and incorporating incentives to move to value-based procurement in federal health transfers to provinces and territories).
- Streamline regulatory approval processes and benchmark progress against best practice international players to reset federal, provincial, and territorial relationships and better enable one regulatory system that facilitates easier entry of innovative products into the domestic market, improves cooperation between academic labs and health authorities, and generally creates an enabling business environment for investment in this sector.

136 The New York Times – https://www.nytimes.com/2020/03/03/business/coronavirus-india-drugs.html (Accessed October 2020)
137 CBC – https://www.cbc.ca/news/health/virtual-care-cma-survey-1.5603713 (Accessed October 2020)
138 The Globe and Mail – https://www.theglobeandmail.com/business/article-biotech-blind-spot-how-canadas-big-investors-missed-the-boom/ (Accessed October 2020)

- Give federal health organizations a joint health and economic development mandate to optimize the value of recovery investments.
- Target investments to build world-leading digital infrastructure to support the digital health strategy and enable data-driven advances in health care (e.g., expand access to tele-health, particularly for rural and Indigenous communities, as well as the elderly, and pilot a fully interoperable digital platform regionally across provincial and territorial systems).
- Consider COVID-19 bridge financing to support pre-commercial Canadian firms with a high degree of commercial potential (e.g., interest-free loans).
- Promote domestic and international private sector investment in biotech and med-tech firms, including the development of later-stage venture and private equity capital funds, in collaboration with provinces and territories (e.g., lower ownership criteria for access to SR&ED tax incentive to 75% and extend eligibility to firms at later stages of scale-up and IRAP 2.0).
- Work with securities administrators to increase incentives for Canadian life sciences firms to pursue dual listing on the TSX and US exchanges.
- Strengthen the development of clinical trial networks in order to stimulate research coordination and attract new multinational corporation (MNC) funding. Mobilize pension funds to create a scale-up VC fund.

What We Have Heard

- "We must prepare for future crises—not just pandemic preparedness (e.g., improved capacity for testing, vaccine development, domestically manufactured PPE). Leading health care countries have started moving towards value driven procurement, delivery and innovation."
  – Health care expert
- "There are 40+ health regulatory authorities in Canada, which has slowed the adoption of new technologies and digital health platforms"
  – Venture capital executive
- "Now, more than ever, we must reduce interprovincial trade barriers. In particular, breaking down these barriers would optimize the virtual health care system"
  – Bio-sciences executive
- "The moment our biotech companies reach a certain size, they get poached or migrate to the US"
  – Biotechnology Executive
- "It is important that we take our biggest single investment and turn it into an economic engine, Health care should be a national priority."
  – Bio-sciences executive

GLOSSARY

AI	Artificial intelligence
B2B	Business-to-business
B2G	Business-to-government
BCAP	Business Credit Availability Program
BDC	Business Development Bank of Canada
CCUS	Carbon capture, utilization, and storage
CEBA	Canada Emergency Business Account
CERB	Canada Emergency Response Benefit
CEWS	Canada Emergency Wage Subsidy
EDC	Export Development Canada
EI	Employment insurance
ESG	Environmental, social, and governance
EST	Economic Strategy Tables
EV	Electric vehicle
FCC	Farm Credit Canada
FDI	Foreign direct investment
FTE	Full-time equivalent
GHG	Greenhouse gas
ICT	Information and communications technology
IP	Intellectual property
IRAP	Industrial Research Assistance Program
LEEFF	Large Employer Emergency Financing Facility
LNG	Liquified natural gas
MNC	Multinational corporation
PPE	Personal protective equipment
R&D	Research and Development
RDA	Regional Development Agency
SDTC	Sustainable Development Technology Canada
SIF	Strategic Innovation Fund
SME	Small to medium enterprises
SMR	Small modular reactor
SR&ED	Scientific Research and Experimental Development
TFW	Temporary Foreign Worker
VC	Venture capital
VCCI	Venture Capital Catalyst Initiative
WEF	World Economic Forum

ANNEX A: SUMMARY OF THE COUNCIL'S RECOMMENDATIONS

Restart
Safely restore confidence and commerce

Recover
Set a trajectory of inclusive growth

Reimagine
Catalyze GDP growth beyond pre-COVID levels

A **Boost the confidence of Canadian businesses and consumers to navigate the new normal and adjust the economic response plan to better support a safe reopening of the economy.**

B **Stabilize and secure the hardest-hit sectors through targeted measures**

- Airlines, airports and aerospace
- Resources of the future
- Tourism, hospitality and culture

C **Reignite growth by doubling down on a future-oriented investment plan**

- Diversity, talent & workforce innovation
- Innovation ecosystem and R&D funding
- Access to capital to accelerate growth of Canadian firms
- Strategic infrastructure – digital and physical
- Agile regulation
- Strategic use of procurement

D **Canada needs an industrial strategy with four key pillars for a digital, sustainable, and innovative economy for all Canadians**

- Become a digital and data-driven economy
- Be the ESG world leader in resources, clean energy, and clean technology
- Building innovative and high-value manufacturing where we can lead globally
- Leveraging our agri-food advantage to feed the planet

E **Establish renewed public-private sector partnerships and investments anchored in a sound and rigorous fiscal framework**

↑ ↓ ↑ ↓ ↑ ↓

Deep sectoral insights and recommendations, informed by data-driven analysis (see feature section)

↑ ↑ ↑

Foundational insights from industry consultations and broad stakeholder engagement (see annex B, C and D)

RECOMMENDATION A: Boost the confidence of Canadian businesses and consumers to navigate the new normal and adjust the economic response plan to better support a safe reopening of the economy

1. **Further strengthen coordination and best practices with the provinces and territories and advance a risk management approach,** recognizing that COVID-19 will be with us for some time (e.g., a coordinated approach to reopen borders based on sound risk management principles, launching pilot projects to test innovative approaches to risk management).

2. **Fully engage the private sector** to ensure public health measures and innovation are in place to support a safe restart (e.g., partner with industry consortia to increase viral testing capacity and decrease time to results, expand contact tracing to accelerate economic activity and eventually roll out vaccination at scale).

3. Develop, in collaboration with Canadian financial institutions and federal financial Crown corporations, **mechanisms to facilitate restructuring and refinancing for otherwise profitable firms that face extended recovery periods,** allowing business to emerge with more sustainable business models.

4. **Further encourage workforce participation and smarter reskilling as emergency programs are phased out**, building on recently announced changes (e.g., complement the transition from CERB to EI with innovation skills programming to reskill disrupted workers—women and racialized Canadians in particular—and revisit structure of EI training model).
5. **Leverage and promote the "Canada" brand domestically and internationally, emphasizing value addition and innovation** (e.g., encourage local spending and support for local businesses, launch public health messaging campaigns abroad to instill confidence in potential international students).

RECOMMENDATION B: Stabilize and secure the hardest-hit sectors through targeted measures

Airlines, airports, and aerospace

1. **Provide longer-term support** (e.g., until return to pre-COVID-19 levels of activity) to allow firms that are particularly impacted or of national strategic interest to meet fixed costs and allow for greening of fleets in line with other competitive jurisdictions (complementary and/or in replacement of existing programs).
2. **Accelerate restart of domestic and international travel** by adopting innovative ways to manage risks and rebuild confidence (e.g., rapid testing for international visitors from low-risk jurisdictions with significantly reduced quarantine times).

Resources of the Future

3. **Provide additional incentives for upstream operators** to sustain long-term viable operations and to reignite their capital expenditures with consideration to long-term ESG/resource objectives and ensure existing business credit programs provide bridge funding to long-term viable producers and service operators until investments resume.

Tourism, hospitality, and culture

4. **Provide patient capital** to allow anchor firms with high brand-value and a long term business model (who have challenges accessing capital) to weather subdued demand and overcapacity in the medium term, particularly where smaller communities are disproportionately impacted.
5. **Collaborate with the private sector** to ensure sufficient restructuring and transformation funding is available—crowding in private capital at attractive rates and ensuring that entrepreneurs have the opportunity to transform their businesses in the wake of COVID-19.

RECOMMENDATION C: Reignite growth by doubling down on a future-oriented investment plan

Diversity, talent, and workforce innovation

1. **Expand scope and increase funding of reskilling programs** in partnership with provinces and territories to drive smarter digital learning models and infrastructure for future demands (e.g., supporting upskilling and reskilling to fill labour gaps).
2. **Capitalize on the opportunity to retain and attract highly skilled global talent**, particularly in digital and data areas, as other countries close/reduce access to work permits (e.g., retain recent STEM graduates, displaced H-1B visa holders, assist job placement for accompanying spouses).
3. **Develop a National Workforce Innovation Strategy** to develop a system of lifelong learning that is aligned with commercial needs, ensuring graduates are well positioned for jobs of the future, while closing the gender gap and advancing inclusion and diversity in the workforce (e.g., skills needed for Manufacturing 4.0, internships and dual programs, micro-credentials, and flexibility with online learning).

Innovation ecosystem and R&D funding

4. **De-risk and encourage industries to digitize, automate, and drive productivity** for SMEs and upper-middle companies (e.g., build on technology access centres; explore giving superclusters a mandate on technology adoption with increased focus on upper middle companies; incentivize the private sector to invest in intangible assets and technology such as Manufacturing 4.0; improve digital adoption and service delivery within health care and education with an acute demand post-COVID-19; invest in software infrastructure projects).
5. **Continue to strengthen Canada's Digital Charter and IP Strategy, and build a modern digital regulatory system** to better manage, safeguard—which includes added enforcement capabilities to reduce data infringement—and commercialize our assets (e.g., guidelines on drone use, IP education, IP filing costs for SR&ED-eligible Canadian companies, micro patent pools).
6. **Recapitalize, expand, and modernize key government programs** to stimulate immediate and longer-term private investments in innovation and R&D (e.g., the Strategic Innovation Fund (SIF), Sustainable Development Technology Canada (SDTC), SR&ED, incorporate technology adoption into the IRAP mandate).

Access to capital to accelerate growth of Canadian firms

7. **Consider an expanded role for the financial Crown corporations—BDC, EDC and FCC—to support the relaunch of the economy** in partnership with the private sector and in alignment with the overarching strategy to boost productivity and innovation:
   - Direct the financial Crown Corporations to move up the risk curve and to provide significant additional growth and scale-up capital to Canadian businesses.
   - Establish new special purpose funds to support business scale-up, including financing of the larger venture capital (VC) rounds that have proven elusive in Canada.
   - Direct these institutions to increase support to Canada's larger and most competitive businesses to help them "own the podium" (e.g., R&D investment in digital product innovation, investment to adopt latest technologies).
   - Cultivate sector-specific capabilities through strategic areas aligned with key industrial strategy priorities.
8. **Ensure capital gaps (e.g., women entrepreneurship funds, Indigenous community development funds, bio-science research funds) are addressed in partnership with the private sector**
   - Expand on existing diversity-oriented growth funds to increase access to capital and stimulate inclusive growth.
   - Expand proven partnership models on growth capital, including incentives to crowd in private capital and deepen investment expertise domestically (e.g., Venture Capital Catalyst Initiative (VCCI)).

Strategic infrastructure – Digital and physical

9. **Accelerate plan to ensure coverage and access to high-quality Internet for 100% of Canadians by 2026**, in collaboration with the private sector and other levels of government.
10. **With the support of the Canada Infrastructure Bank, drive nation-building projects by:**
    - Developing a strategic perspective on the highest productivity-enhancing infrastructure priorities for the country.
    - Unlocking a pipeline of investable infrastructure projects by increasing the acceptability of user-pay models.

- More proactively incentivizing these projects to happen, including non-traditional asset classes (e.g., digital and green infrastructure, including CCUS and small modular reactors (SMRs)).
- Creating fast-track approval processes across all levels of government to increase the scale and velocity of investment.[139]

11. **Invest in strategic trade infrastructure that addresses critical bottlenecks** (e.g., create gateways and corridors strategy for bulk commodities and containers). Infrastructure needs to be trade-focused. Rail, road, ports, airports, pipelines and tech capacity are priorities and we have well-known infrastructure deficits in these areas. We will not be able to keep pace with demand in fast-growing markets if we do not ramp up infrastructure investments significantly.

Agile regulation

12. **Fast-track regulatory reviews in sectors where delays have a disproportionate financial and societal impact** (e.g., clean technology, resources), conduct targeted regulatory reviews to support most impacted sectors (e.g., oil and gas, aerospace), and build on ongoing regulatory reform efforts to eliminate areas of federal and provincial overlap.

Strategic use of procurement

13. Improve supply chain resiliency through **strategic domestic procurement**, particularly in strategic sectors impacted by COVID-19 and/or where there is opportunity to create scale in health care, clean technology, education and Indigenous-led businesses. The recommendations of previous reports on procurement should be fully implemented.

RECOMMENDATION D: Canada needs an industrial strategy with four key pillars for a digital, sustainable, and innovative economy for all Canadians

Become a digital and data-driven economy

1. **Build a Global Canadian Digital Network (which could be called the Borealis Digital Network) to transform Canada into a digital society**
   - Create a strategy to scale Canada's digital industry domestically and internationally (e.g., accelerate national data and cybersecurity standards and regulations, increase funding for trade commissioners to help build digital trading outposts and routes for Canadian technology).
   - Expand infrastructure investment strategy to amplify digital infrastructure components such as broadband, software, AI, 5G, etc., and leverage existing programs (e.g., Connectivity Strategy, Infrastructure Bank).
   - Leverage Canada's strengths (e.g., brand, privacy framework) to broaden access to international markets for Canadian firms (e.g., collaboration with upper-middle firms, leverage Canadian standards—such as privacy—to promote exports).
2. **Support Canada's upper-middle businesses**
   - Increase focus on enabling upper-middle firms to win globally (e.g., allocate a proportion of patient capital to upper-middle firms poised for rapid scale-up, adapt eligibility of existing programs such as IRAP to better include them).
   - Build on key initiatives such as Innovative Solutions Canada, establish government procurement standards that support growing Canadian firms (e.g., government as first customer).

139 Green infrastructure includes natural vegetative systems, green technologies and low-carbon infrastructure to address urban and climate challenges such as stormwater management, public transit systems, and renewable energy.

- Encourage the adoption of digital technologies in large Canadian firms, including digitizing government services.

3. **Establish Canadian high-skilled talent as a global advantage**
   - Enable a leading digital skills platform to upskill and reskill Canadian talent.
   - Create a retention strategy for sought-after talent trained in Canada through incentives and other efforts (e.g., wage top-ups).
   - Expand the global talent stream to more proactively attract and retain digital talent to Canada, especially as other nations close their doors to sought after talent.

4. **Leverage IP and promote the value of data**
   - Support IP creation and ownership within Canadian companies (e.g., IP filing costs, SR&ED application, policy education).
   - Modernize the privacy and data protection regime to harmonize the multi-jurisdictional regulations.
   - Create national regulatory and standards framework governing data, including open source, big data libraries to promote public private collaboration, offer new R&D program funding and make better use of Canada's assets to grow the data driven economy.
   - Embed IP strategy into government funding programs to ensure Canadian business and innovators have access to the best IP resources, and offer financial supports for IP development.

Be the ESG world leader in resources, clean energy, and clean technology

5. **Support all natural resource sectors in becoming global ESG suppliers and product innovators**
   - Build a resilient oil industry by becoming a world leader in CCUS to drive down the carbon footprint and provide energy that is based on ESG; support commercialization of SMRs to reduce emissions.
   - Accelerate innovation of engineered wood products and biomass and advance sustainable management practices, to maximize net carbon absorption of forests.
   - Build on world leadership in sustainable mining practices and grow an economic, commercial-scale critical materials supply chain (e.g., rare earth elements, nickel) required for many new technologies (e.g., electric vehicles (EVs), energy storage, sensor and data processing applications) to improve national and North American supply chain resiliency.
   - Focus on nature-based solutions and accelerate development of low- or no carbon biofuels.

6. **Leverage clean technology strengths to accelerate exports and domestic adoption and decarbonize key industrial sectors**
   - Mobilize capital (and patient capital) to drive private sector investment into priority clean tech areas, especially for scale-up.
   - Produce hydrogen (blue, green, grey) fuel at scale and build associated infrastructure for domestic consumption and export.
   - Build the battery supply chain (from critical minerals to specific parts required for assembly) in Canada to meet North American and global supply needs.
   - Become a world-leading hub for sustainable aviation and bio-jet fuel (e.g., R&D support for aviation firms).
   - Establish a targeted strategy for development of technical and business talent (e.g., product commercialization, capital markets, IP protection, global supply chain development) to scale clean tech firms, while growing employment opportunities for underserved communities.
   - Advance Canada's clean technology strength in renewable energy, biofuels, energy storage, smart grids, transportation, and water technologies.

7. **Incentivize all sectors to meet Paris commitments with a cost and time optimal decarbonization pathway**
   - Develop a national or pan-Canadian net-zero 2050 emissions plan and then work with each sector (e.g., resources, energy, manufacturing, agriculture, transportation, clean technology) and the private companies within the sector to gain alignment and execution of their portion of the plan.
   - Enable firms to use credits from any region in Canada and internationally to meet carbon reduction obligations.
   - Develop incentives for energy efficiency and decarbonization projects (e.g., US 45Q incentives) including the establishment of an electricity grid and renewable energy.
   - Invest in green infrastructure investments to support transition to a net-zero economy, e.g., CCUS, nationwide EV charging stations, energy efficient buildings and nature-based climate solutions and affirm Canada's intent to be a leader in energy transition and clean technologies.

Build innovative and high-value manufacturing where we can lead globally

8. **Boost investment in innovation and commercialization**
   - Establish supports to ensure Canadian products and IP remain differentiated (e.g., explore incentives for companies that turn domestically produced IP into locally produced products).
   - Develop a strategy to drive local and international private sector investment in priority sub-sectors—potentially via blended finance and a patient capital fund with a focus on research-intensive products.
9. **Accelerate technology creation and adoption**
   - Increase investment incentives (e.g., for next-generation autonomous manufacturing equipment), directly tied to outcomes (e.g., skills and talent training, commercialization, exports, and environmental performance) to enable rapid scale-up.
   - Incentivize productivity-enhancing technology adoption (e.g., fund capability building programs, offer diagnostic services to help firms understand available technologies and respective applications).
10. **Connect technology clusters and manufacturing firms**
    - Establish infrastructure to encourage cross-functional collaboration in nascent but growing areas (e.g., tech meetups focused on bio-sciences innovations, incubators specializing in developing alternative aviation fuels).
11. **Build skills and talent for Manufacturing 4.0**
    - Ensure a robust labour force (e.g., targeted scholarships, course reimbursements, expedited visas for high-skilled workers and their families).
    - Support female and minority workers in manufacturing to ensure positive progress on employment parity is not lost through COVID-19 and continued into the future (e.g., work-sharing program update, targeted upskilling efforts).

Leverage our agri-food advantage to feed the planet

12. **Build the necessary infrastructure and market access for future waves of growth**
    - Accelerate investments in trade infrastructure to address critical bottlenecks for the transport of goods (e.g., multi-modal port and rail, northern access).
    - Develop a rolling, 50-year "Trade Corridors and Gateways National Infrastructure Plan" to ensure a long-term approach to infrastructure planning and funding.
    - Continue expanding international market access through bilateral agreements focused on removing tariff and non-tariff trade barriers.

13. **Deploy investments in competitive areas**
    - Support investments in value-added transformation of raw goods, to allow Canadian players to capture a larger share of value from processing activities (e.g., maintain investment focus and momentum for plant-based protein, additional focus on other areas such as renewable fuels).
    - Encourage development and commercialization of innovative bio-science products (e.g., zero-carbon fertilizers, phenotyping, drought-resistant crops, plant-based products) and processes (e.g., increasing carbon absorption of soil).

14. **Increase digitization to improve productivity**
    - Accelerate broadband infrastructure investments to enable connectivity, especially in rural and Indigenous communities, and increase the adoption of digital technologies that are critical to productivity improvements in the sector.
    - Incentivize digital investments across supply chains to lower inventory requirements and improve overall efficiency (e.g., blockchain and automation of processing lines).

15. **Modernize regulatory systems and build a 21st century talent pipeline**
    - Modernize regulatory system with a focus on removing internal trade barriers to enable the growth of the Canadian agri-food sector and help businesses achieve scale and become globally competitive.
    - Attract new talent into the agri-food sector, with a particular emphasis on digital and business skills.
    - Modernize the TFW Program to address pre-existing labour shortages in the long term.

RECOMMENDATION E: Establish renewed private sector partnerships and investments anchored in a sound and rigorous fiscal framework

Maintain a sound and rigorous fiscal framework

1. Develop a realistic and predictable plan for economic recovery and reimagination to **meet four clear fiscal objectives**:
    - Canada remains an **acknowledged leader** among industrialized countries in the management of public finances and level of debt and deficit.
    - Careful program design ensures that an expansion of public financing **does not crowd out private investment** in Canada.
    - New spending mostly **supports future growth** (e.g., investment in human, physical and intellectual capital to improve productive capacity and export potential) rather than simply fueling short-term consumption; **outcomes are rigorously tracked and managed**.
    - Canada improves the **competitiveness of its tax regime**.

Establish new private sector partnerships

2. Collaborate with the private sector to deliver the recommendations and leverage proven approaches, including:
    - **Stand up new forums for regular, transparent dialogue** on investment opportunities between the Government and Canada's financial ecosystem.
    - **Establish a framework for risk-sharing** in public–private partnerships that can be adapted for individual projects (e.g., risk-sharing, first loss, mediation).

- In collaboration with provinces, **establish a unified national strategy for attracting global capital** into the country while maintaining high standards for corporate governance and disclosure.
- **Provide targeted incentives to de-risk and accelerate investments, and create win-win opportunities for investors to earn appropriate levels of return while helping the economy.**

Sector-specific recommendations

Resources of the Future

- **Provide additional incentives for viable upstream operators to reignite their capital expenditures** and ensure existing business credit programs provide bridge funding to long-term viable producers and service operators until investments resume.
- **Streamline regulations and develop a clear framework on environmental requirements**; ensure regulations are the most cost-effective and efficient options to encourage investment in Canada versus abroad.
- **Rebuild investor confidence** with a clear signal that the Government will be actively collaborating with the resource sector, which it recognizes as a critical part of the solution for a net-zero world, over the long term.
- **Implement the first Resources of the Future Economic Strategy Table recommendations and further invest in transport infrastructure**, as well as reduce cross-sector conflicts (e.g., competing for rail space with agricultural commodities) to improve long-term competitiveness and reduce pricing discounts.
- **Support natural resource sectors in becoming global sustainability and circular economy champions**, in particular the oil and gas sector, by providing decarbonization incentives, developing a comprehensive plan for emission reduction, and highlighting their ESG performance, among other things.

Advanced Manufacturing

- **Position Canadian manufacturing for the future in order to seize emerging opportunities and areas of new growth** (e.g., support EV manufacturing, attract investments in hydrogen technology manufacturing, build skills and talent for Industry 4.0).
- **Implement tax-based investment incentives to encourage technology creation and adoption**, such as the next generation of autonomous manufacturing equipment, that are directly tied to outcomes (e.g., technology investment, training, commercialization, exports, and environmental performance).
- **Support investment in innovation and commercialization** in order to ensure Canadian products and IP development remain robust and differentiated (e.g., incentives that reward companies for turning domestically produced IP into locally produced products).
- **Provide liquidity to support the Canadian aerospace sector**, including anchor firms, as well as tier 1, 2 and 3 suppliers, and encourage investments to advance the future competitiveness of the Canadian aerospace sector, including investing in new technologies (e.g., biofuels, AI, autonomous technology).
- **Reopen the border for selected deliveries and sale completions requiring in person presence**, particularly in the aerospace sector and heavy machinery manufacturing space (e.g., installation of equipment critical to delivery completion).
- **Market Canada's brand for greater domestic and foreign purchases**, with an added focus on B2B and B2G sales to increase the role of Canadian manufacturers on the global stage (e.g., launch a

national and international marketing campaign such as #MadeBetterinCanada).

- **Support demand in the automotive sector as sales "bump" disappears to ensure viability of Canadian firms** (e.g., "Cash for Clunkers" program in January).

Retail

- **Encourage SME retailers to shift to digital** so they can improve competitiveness against e commerce giants and capitalize on the shift in consumer behaviour (e.g., through financial incentives); **ensure that capacity and infrastructure are in place to support the shift to digital across the retail value chain** (e.g., shipping and delivery, access to broadband) and **speed up regulatory approvals and permitting** to support digital technology.
- **Rebuild Canadian consumer confidence** by collaborating with the private sector on safety and managing outbreaks, as well as providing targeted relief to vulnerable households to maintain non-discretionary spending.
- **Boost domestic consumption** to raise revenues of impacted businesses (e.g., visibility of local product clusters).
- **Consider extending targeted liquidity, credit and rent relief to hardest-hit retailers**, prioritizing firms with healthy financial prospects prior to COVID-19 and adopting best practices from similar programs in other countries (e.g., vendor insurance).
- **Address implications of restructuring on vulnerable workers**—including women, new Canadians and youth—and consider measures to support future employment (e.g., reskilling of head-office employees and retail store staff).

Tourism and Hospitality

- **Provide patient capital and quasi-capital** that allows anchor firms in the sector to weather subdued demand and overcapacity in the medium term, leveraging best available instruments.
- **Develop new financing models beyond traditional debt-based instruments** (e.g., joint equity funds, revenue pooling, securitization instruments) that can unlock recovery and growth opportunities in sectors such as tourism and hospitality, in collaboration with key partners (Crown agencies, financial institutions, institutional investors).
- **Accelerate the restart of domestic and international travel, adopting innovative ways to manage risks and rebuild confidence**, namely:
  - Provide free testing upon arrival as part of a risk-based framework to accelerate the recovery of international travel.
  - Collaborate with provinces and territories to revisit inter-provincial border closures and coordinate a rapid effort to restart domestic travel (e.g., through promotions and communication).
  - Create travel agreements with other low-risk countries.

Transportation

- **Provide targeted liquidity measures for critical aviation players, airports, and transit systems**, to facilitate recovery in line with taxpayer expectations and what is done in other competitive jurisdictions.
- **Selectively reopen borders with low-risk countries** (e.g., travel "bubbles" or "corridors") and for highly critical workers (e.g., automotive workers) to accelerate recovery of air travel.
- **Establish adequate safety protocols and invest in supporting infrastructure to increase consumer confidence** (e.g., contactless journeys, seat reservation app for transit that help manage both capacity and safety, and fast testing to increase travel).
- **Develop inclusive targeted programs to address labour shortage in freight** (e.g., truck drivers), and support reskilling on advanced technologies to accelerate adoption across all transport modes.

- **Incentivize the adoption of intelligent systems and predictive technology** to increase efficiency and reduce congestion (e.g., air traffic control systems that better manage air traffic in dense airspace, reduce aircraft noise, and reduce aircraft emissions, and modern signalling and automatic control systems to improve rail efficiency and safety).
- **Invest in road and trade infrastructure** to improve intermodality and reduce congestion (e.g., adding routes or trains to transit system, reducing reliance of ports on just railway, additional trading hubs to support changes in potential trade patterns).

Agri-Food

- **Accelerate investments in trade infrastructure** to address critical bottlenecks for the transport of goods.
- **Develop a "Trade Corridors and Gateways National Infrastructure Plan"** that addresses key multi-modal bottlenecks in rail, containers, and ports.
- **Support investments in value-added transformation of raw goods**, to allow Canadian players to capture a larger share of value from processing activities (e.g., plant based protein, renewable fuels).
- **Modernize regulatory system with a focus on increasing agility and removing internal trade barriers** to enable the growth of the Canadian agri-food sector and help businesses achieve scale and become globally competitive.
- **Continue expanding international market access** through bilateral agreements focused on removing tariff and non-tariff trade barriers.
- **Accelerate broadband infrastructure investments** to enable rural connectivity and increase the adoption of digital technologies to improve productivity across the sector.
- **Incentivize digital investments across supply chains** to enable key data collection that will allow the use of AI and predictive analytics to optimize production, lower pesticide use and bolster public trust in food safety and traceability in global food supply chains.
- **Modernize the TFW Program** to address pre-existing labour shortage in the long term.
- **Become a leader in environmentally sustainable food production** to address environmental challenges and respond to growing consumer focus on sustainability.

Clean Technology

- **Ensure our industrial strategy prioritizes the commercialization and scale-up of Canadian firms and their enabling clean technologies** (e.g., decarbonization, circular economy, organic solutions, etc.) that creates an industrial base of clean technology companies that can be globally competitive/dominant players.
- **Mobilize capital (including patient capital) to drive a sustainable economy and private sector investment into priority clean technology areas**, especially for scale up and to aggressively accelerate deployment of next-generation clean technology systems.
- **Provide targeted support for clean technology in high priority areas where Canada has competitive advantages** (including but not limited to):
  - Producing hydrogen (blue, green, grey) fuel at scale and building associated infrastructure for domestic consumption and export.
  - Developing a CCUS hub in Alberta, in collaboration with oil and gas, to reduce local emissions and develop exportable expertise.
  - Building the battery supply chain (from critical minerals to EVs) in Canada to meet North American and global supply needs.
  - Making Montréal the world-leading hub for sustainable aerospace and aviation including R&D support for aviation firms and biofuels.
  - Advancing Canada's clean technology strength in renewable energy, biofuels, energy storage, smart grids, transportation, waste management, energy efficiency, SMRs, and water technologies.

- **Prioritize and accelerate the deployment of market-ready, commercially available made-in-Canada clean technology across sectors** to achieve 2030 targets; align with industry on decarbonization pathways and market potential for clean technology; determine priority investments to compress innovation timelines; and remove regulatory barriers.
- **Accelerate global market access** through export strategy to realize $20B by 2025 target, including trade agreements with partners outside of the US.
- **Expand public procurement** to accelerate demand of made-in-Canada clean technology and incentivize industrial deployment. Facilitate connections between technology adopters and solutions providers, including in Indigenous communities, and the provision of domestic reference markets for technology demonstration.
- **Establish focused strategy and action plan** with targets to source, develop, and grow both technical and business talent available to clean technology from all industrial sectors while growing employment opportunities for underserved communities.

Digital Industries

- **Support a Digital Industrial Strategy** – With support for upper-middle companies to become world leaders, a new Software R&D Infrastructure fund to create a full R&D strategy, lift the 500-person cap for upper-middle companies on programs (e.g., IRAP), and build a Global Canadian Digital Network (which could be called the Borealis Digital Network) with new trade outposts and routes globally.
- **Government procurement** – Increase share of software and technology procurement from upper-middle companies and remove bias against SMEs and upper-middle companies, as well as Indigenous-, visible minority-, or women-owned companies. Reduce project risks and stay nimble by using best-of-breed products with open Application Programming Interface (APIs) to make it easier to tailor, integrate and extract data. And work with SMEs and upper middle companies to build new standards and to explore new technologies and roadmaps.
- **Talent development and retention strategy** – Offer incentives to high-demand digital talent to slow "brain drain" from Canadian institutions. Market Canada's strengths in innovation and entrepreneurship to build a stronger international reputation as a digital hub with opportunities on par with other global hubs. Develop a new strategy for skills development, including national digital learning infrastructure.
- **IP and data strategy** – Enhance support for IP education, micro-patent pools with upper-middle companies and academic partners, support IP costs within SR&ED programs for Canadian-controlled companies.
- **Build economic and social benefits through smart and secure data sharing** between organizations and across all sectors. Strengthen privacy to protect our citizens and to avoid undermining democratic rights, while unblocking hurdles for companies.
- **Trade and FDI strategies** – Trade negotiation strategies that strengthen Canada's intangibles sector and build new outposts and trading routes. Modify FDI policies to understand negative spillover effects of the intangible economy.

Health/Bio-sciences

- **Adjust health procurement and sourcing strategies to ensure resilience of domestic capabilities** in line with areas of strategic focus.
- Collaborate with provinces and territories **to adopt value-based procurement across Canada's health systems and in federal areas of health responsibility** (e.g., consider expanding use of combined purchasing and incorporating incentives to move to value-based procurement in federal health transfers to provinces and territories).

- **Streamline regulatory approval processes** and benchmark progress against best practice international players to reset federal, provincial, and territorial relationships and better enable one regulatory system that facilitates easier entry of innovative products into the domestic market, improves cooperation between academic labs and health authorities, and generally creates an enabling business environment for investment in this sector.
- Give federal health organizations **a joint health and economic development mandate** to optimize the value of recovery investments.
- Target investments to **build world-leading digital infrastructure to support the digital health strategy and enable data-driven advances in health care** (e.g., expand access to tele-health, particularly for rural and Indigenous communities, as well as the elderly, and pilot a fully interoperable digital platform regionally across provincial and territorial systems).
- **Consider COVID-19 bridge financing** to support pre-commercial Canadian firms with a high degree of commercial potential (e.g., interest-free loans).
- **Promote domestic and international private sector investment** in biotech and med tech firms, including the development of later-stage venture and private equity capital funds, in collaboration with provinces and territories (e.g., lower ownership criteria for access to SR&ED tax incentive to 75% and extend eligibility to firms at later stages of scale-up and IRAP 2.0).
- **Work with securities administrators** to increase incentives for Canadian life sciences firms to pursue dual listing on the TSX and US exchanges.
- **Strengthen the development of clinical trial networks** in order to stimulate research coordination and attract new multinational corporation (MNC) funding. Mobilize Pension Funds to create a scale up VC Fund.

ANNEX B: STAKEHOLDER AND PUBLIC ENGAGEMENT

The Industry Strategy Council carried out extensive stakeholder engagement over the course of its intensive meeting cycle. Without those insights, this work would not have been possible. Below is an overview of the Council's Public Engagement plan and the process undertaken. The Industry Strategy Council conducted nearly 100 public engagement sessions with stakeholders representing over a thousand businesses, academic institutions, associations, community organizations, Indigenous communities and youth groups across sectors and across Canada. We have carefully documented their input from these sessions and the written submissions we received. This input was fundamental for grounding the work in the reality facing diverse stakeholders and all Canadians.

Strategic engagement plan

The Industry Strategy Council met with stakeholders to obtain perspectives on:

- National and regional impacts of COVID-19 on the Council members' respective sectors;
- The impact of government support programs to date (including what has worked, what hasn't, and where the unfulfilled gaps are);
- Stakeholders' forward-looking plans (e.g., liquidity, access to PPE, labour availability, supply chains, customer demand, etc.) for resuming commercial operations in the short and medium term;
- Initiatives the private sector could take to complement the Government's efforts at economic recovery and growth; and
- Other issues, concerns and comments for Council to consider.

Strategic engagement process

The Industry Strategy Council's public engagement process took place in multiple parts:

1. Bilateral Engagement with Thought Leaders and Key Industry Stakeholders
   - Discussions with thought leaders and industry leaders deeply engaged in Canada's economy, from Canada's banks, financial institutions, academia and industry.
2. Meetings with Pan-Canadian Associations
   - Pan-Canadian associations: Extensive engagement with Pan-Canadian associations representing the economic interests of Canadians.
   - Group Engagement: Engagement with many organizations including QG100, Réseau des Femmes d'affaires du Québec, Cercle des Présidents and Cirano.

3. On-Line Engagement
   - Council website: The Council developed an open, accessible engagement platform inviting Canadians to speak about their experiences and to share insights on how to establish a strong and resilient Canadian economy.
4. Written Submissions: Over 100 submissions were transmitted to the Chair directly or via departmental channels, including the Council's website sharing their views.
5. Business Survey, with support from McKinsey, of 726 small- and medium-sized businesses, to inform analysis for the Council's workshops and discussions and to provide timely insight on sector-specific dynamics arising from COVID-19.
6. Sectoral Engagement
   - Council members led sectoral engagement in their respective sectors with leading CEOs and associations.

What we heard

The general consensus that emerged from our engagement process is that the time to position Canada to win in the future is now. Several common themes emerged in nearly all of the Council's engagement sessions. These are covered in our report.

1. Canada is in a good position, compared to international peers, and has the capacity for further response, if required.
2. Canada's policy frameworks should achieve multiple objectives in tandem (i.e., improving the economy while driving progress on other strategic goals).
3. Need to consider impacts on our fiscal framework and our long-term trajectory.
4. Resilient recovery proposals should reflect three elements:
   - Economy – yielding timely, lasting economic benefits and jobs
   - Environment – clean competitiveness and climate resilience
   - Equitability and Feasibility – particular attention paid to youth, women, Indigenous peoples and vulnerable groups

ANNEX C: LIST OF STAKEHOLDERS ENGAGED

The Council expresses its gratitude to all those who took the time to speak with us and to submit their views. Their insights helped to shape our work and recommendations. Reimagining Canada for the prosperity of all Canadians has been a collective endeavour.

Pan-Canadian Associations, Provincial Organizations, key industry leaders, thought leaders, and other business groups

- Al Benoit and Dustyn Panson, on behalf of Clément Chartier, Métis National Council
- Allison Burket, Ian Robb, Michellle Travis, UNITE HERE
- Anne-Marie Hubert, Ruth Vachon, E&Y-Réseau des Femmes d'affaires du Québec
- Arvind Gupta, Palette
- Ben Bergen, Dana O'Born, Patrick Searle, Canadian Council of Innovators
- Bharat Masrani, Jeffrey Nathanson, Howie Millard, TD Bank
- Chantal Bouvier and 10 CEOs, Cercle des Présidents du Québec
- Charles Emond, CDPQ
- Charles Brindamour, Intact
- Claude Auchu, Ig2
- Clément Gignac, Pierre Miron, Industrial Alliance Financial Group
- Dale Burgess, Marc Dupont, Ontario Teachers' Pension Plan
- Dan Kelly, Jasmin Guenette, Corinne Pohlmann, Canadian Federation of Independent Business
- Daniel-Robert Gooch, Canadian Airport's Council
- Darryl White, BMO
- David Chaundy, Atlantic Provinces Economic Council
- David Dodge, Bennett Jones LLP
- David McKay, RBC
- Dean Connor, Jacques Goulet, Sunlife
- Denise Amyot, Christine Trauttmansdorff, Colleges and Institutes Canada
- Dennis Darby, Canadian Manufacturers and Exporters
- Dominic Barton, Canadian Ambassador to China
- Dominique Gautier, Rahul Gangal, Roland Berger, on behalf of the Aerospace Industries Association of Canada
- Don Walker, Galen Weston, Dave McKay + 40 CEOs, private meeting
- Doug Murphy, Corus Entertainment
- Ed Clark, Vector Institute for AI
- Ed Greenspon, Anna Jahn, Brian Bohunicky, Public Policy Forum
- Ed Sims, WestJet
- Eric Martel, Bombardier
- Frank McKenna, TD Financial Group
- Goldy Hyder, Susan Scotti, Business Council of Canada
- Guy Cormier, Desjardins
- Guy Leblanc, Investissement Québec
- Hassan Yussuff, Canadian Labour Congress
- Heather Monroe-Blum, CPPIB
- Helene Chartier, Charles Sirois + 15 CEOs, QG100
- Ian London, Constantine Karayannopoulos, CREEN
- Indira Samarasekera, Bennett Jones LLP
- Jacques Bernier, Teralys Capital
- Janie Béïque, Fonds FTQ
- Jean Boivin, BlackRock

- Jean-Marc Eustache, Howard Leibman, Bernard Bussières, Air Transat
- Jeffrey Orr, Power Financial Corporation
- Jim Balsillie, Philanthropist, Chair of the Council of Canadian Innovators, and Former Co-CEO of Research in Motion (RIM)
- Jim Leech, Queen's University
- Kevin Uebelein, Alberta Investment Management Corporation
- Kim Furlong, Matt Ivis, Canadian Venture Capitalists Association
- Linda Hasenfratz, Linamar
- Lorraine Mitchelmore, Suncor Energy
- Lorraine Pintal, Marc Lalonde, Madeleine Careau, Groupe des onze
- Louis Têtu, Coveo
- Louis Vachon, National Bank
- Marc Parent, CAE
- Mark Machin, Tim Downing, CPPIB
- Megan McElwain, Trevin Stratton, Jarred Cohen, Food Service Advisory Council
- Michael Holden, Alicia Planincic, Business Council of Alberta
- Mirko Bibic, Robert Malcomson, Bell Canada
- Natan Obed, Jenny Tierney, Elizabeth Ford, Inuit Tapiriit Kanatami
- Nathalie de Marcellis-Warin + 25 Young Professionals, Cirano
- Patrick Pichette, Inovia Capital
- Paul Davidson, Wendy Therrien, Universities Canada
- Perrin Beatty, Trevin Stratton, Canadian Chamber of Commerce
- Perry Bellegarde, Assembly of First Nations
- Philippe Jetté, Cogeco Inc. and Cogeco Communications Inc.
- Philippe Balducchi, Pierre Cardin, Airbus
- Pierre Rivard, David Isaac, Vicky Sharpe, Indigenous Infrastructure Fund
- Richard Florizone, IISD
- Roseanne Runte, Pierre Normand, Canada Foundation for Innovation
- Sarah Watts-Rynard, Polytechnics Canada
- Serge Godin, CGI
- Sheri Somerville, Glenn Davis, Atlantic Chamber of Commerce
- Sophie Brochu, Hydro Québec
- Sophie D'Amours, Université Laval
- Stéphane Paquet, Montréal International and Kim Thomassin, CDPQ
- Stewart Elgie, uOttawa, Richard Florizone, IISD
- Sue Paish, Digital Technology Supercluster
- Susan Black, Michael Burt, Pedro Antunes, Darren De Jean, Bryan Benjamin, Conference Board of Canada
- Tashia Batstone, Bruce Ball, Gord Beal, Francis Fong, Sarah Anson-Cartwright, James Richardson, CPA Canada
- Tom Jenkins, Open Text
- Victor Dodig, CIBC
- William Robson, CD Howe Institute

Arms' Length Government Organizations

- Governor Tiff Macklem, Jill Vardy, Bank of Canada
- Mairead Lavery, Peter Hall, EDC
- Michael Denham, BDC
- Neil Cunningham, Nadia Mattei, PSP Investment Board

Sectoral consultations

Advanced Manufacturing:

- Alexandre Gagnon, Pratt & Whitney
- Carolyne Hughes, Ford Canada
- Dennis Darby, Canadian Manufacturers and Exporters
- Frank Voss, Toyota
- Heather Chalmers, GE

- Jean Marc Leclerc, Honda
- Lorraine Shalhoub, FCA Canada
- Mark Gilmour, Estee Lauder
- Michael McCain, MapleLeaf Foods
- Peter G. Hall, EDC
- Pierre Pyun, Bombardier
- Ricardo Prosperi, Tenaris
- Rob Wildeboer, Martinrea
- Sean Donnelly, ArcelorMittal Dofasco G.P.
- Simon Drexler, ATS Automation

Transportation:

- Anthony Norejko, Canadian Business Aviation Association
- Caroline Healey, Railway Association of Canada
- Cynthia Garneau, Via Rail
- Daniel-Robert Gooch, Canadian Airports Council
- Howard Liebman, Transat A.T.
- Karen Kancens, Shipping Federation of Canada
- Mathieu Larouche, Armateurs du Saint-Laurent
- Mike McNaney, Francesca Iacurto, National Airlines Council of Canada
- Philippe Rainville, Aéroports de Montréal
- Stephen Laskowski, Canadian Trucking Alliance
- Steve Vanagas, TransLink

Clean Technology:

- Andrée-Lise Méthot and Catherine Bérubé, Cycle Capital
- Andrew Morden, Fatigue Science
- Anna Stukas, Carbon Engineering
- Ben Sparrow, Saltworks
- Chris Reid, Ekona Power
- Jeff Moore, MineSense
- Jonathan Rhone, Axine Water
- Karn Manhas, Terramera
- Leah Lawrence, Christine Charbonneau, Zoë Kolbuc, Ziyad Rahme, SDTC
- Marty Reed, Evok Innovations
- Mike Andrade, Morgan Solar
- Mischa Steiner-Jovic, Awesense
- Robert Niven, Carbon Cure
- Tom Rand, Arc Tern Ventures

Retail:

- Horacio Barbeito, Walmart Canada
- Iain Nairn, Hudson's Bay
- Jenn Harper, Cheekbone Beauty Cosmetics
- Mike Walsh, Leon's
- Paul Simmonds, Robert Simmonds

Tourism and Hospitality:

- Charlotte Bell, Tourism Industry Association of Canada
- David Lefebvre, Restaurants Canada
- Keith Henry, Indigenous Tourism Association of Canada
- Philip Mondor, Tourism Human Resources Canada
- Susie Grynol, Hotels Association of Canada

Digital Industries:

- Ali Asaria, Tulip Retail
- Allen Lau, Wattpad
- Cathy Worden, Cisco
- Christian Dandeneau, ID Fusion Software
- Dan Ciuriak, Centre for International Government Innovation
- Ed Greenspon, Public Policy Forum
- Ian Crosby, Bench
- Ian Rae, CloudOps
- J. Paul Haynes, eSentire
- Janet Bannister, Real Ventures
- Jason Myers, Bold Commerce
- Jean-François Gagné, Element AI
- John Bernard, Donna Cona
- Julia Rivard Dexter, Squiggle Park

- Keith McIntosh, PQA Testing
- Kevin Peesker, Microsoft Canada
- Kurtis McBride, Miovision
- Maithili Mavinkurve, Sightline Innovation
- Marlene Floyd, Microsoft Canada
- Michael Litt, Vidyard
- Natalie Raffoul, Brion Raffoul LLP
- Sabrina Geremia, Google Canada
- Sean Mullin, Brookfield Institute for Innovation and Entrepreneurship
- Tea Nicola, WealthBar
- Yung Wu, MaRS

Health/Bio-sciences:

- Allen Eaves, STEMCELL Technologies
- Andrew Casey, BIOTECanada
- Brian Lewis, Medtech Canada
- Carl Hansen, AbCellera
- Dermot Kelleher, Faculty of Medicine – UBC
- Jacques Bernier, Teralys Capital
- Jennifer Chan, Merck Canada
- Martin Leblanc, Caprion Biosciences
- Michael Rudnicki, Stem Cell Network
- Neil Fraser, Medtronic
- Oliver Technow, BioVectra
- Raj Malik, Medtech Canada
- Samuel Abraham, InspireHealth & Vancouver Prostate Centre
- Simon Pimstone, Xenon Pharmaceuticals

Agri-Food:

- Carey Bonnell, Ocean Choice International
- Carla Ventin, Food and Consumer Products of Canada
- Dave Quist, Western Canadian Wheat Growers
- David Moss, Canadian Cattlemen's Association
- Dennis Laycraft, Canadian Cattlemen's Association
- Duane Haave, Agricultural Producers Association of Saskatchewan
- Erin Gowriluk, Grain Growers of Canada
- Errol Halkai, Canadian Federation of Agriculture
- Gordon Bacon, Pulse Canada
- Hélène Methot, Centre d'expertise en production ovine du Québec
- Jim Everson, Canola Council of Canada
- John Ross, Canadian Pork Council
- Justine Taylor, Ontario Greenhouse Vegetable Growers
- Kathleen Sullivan, Food and Beverage Canada
- Keith Jones, Canadian Hemp Trade Alliance
- Keith Mussar, IE Canada
- Lee Moats, LLAMM Acres Ltd
- Marie Eve Levert, The Bauta Family Initiative on Canadian Seed Security
- Nicole Mackellar, Grain Farmers of Ontario
- Patty Rosher, Keystone Agricultural Producers
- Phil Boyd, Turkey Farmers of Canada
- Rick White, Canadian Canola Growers Association
- Rod Scarlett, Canadian Honey Council
- Roy vanWyk, Canadian Seed Institute
- Sylvie Cloutier, Québec Food Processing Council

Resources of the Future:

- Adrienne E Bosch, BP Canada Energy Group ULC
- Al Monaco, Enbridge
- Ben Brunnen, Canadian Association of Petroleum Producers
- Bill Clapperton, Canadian Natural Resources Limited
- Bob Shepherd, PetroChina Canada
- Brian Schmidt, Tamarack Valley Energy
- Bryan Gould, Aspenleaf Energy Limited
- Byron Lutes, Mancal Energy Inc.
- Byron Nodwell, Longshore Resources
- Cameron Proctor, PrairieSky Royalty Ltd.
- Chris Bloomer, Canadian Energy Pipeline Association
- Christine Healy, Total E&P Canada
- Dave Lye, Encana Corp.
- David Gowland, Crescent Point Energy

- David Schick, Canadian Fuels Association
- Derek Evans, MEG Energy
- Derek Nighbor, Forest Products Association of Canada
- Donna Phillips, Canbriam Energy Inc.
- Doug Bartole, InPlay Oil Corp.
- Ian Dundas, Enerplus
- James Makowecki, ConocoPhillips Canada
- Janet Annesley, Husky Energy
- Jilin Fu, PetroChina Canada
- Jim Campbell, Canadian Energy Pipeline Association
- Jonathan Wright, NuVista Energy Ltd.
- Kevin Jabusch, Enhance Energy Inc.
- Kevin Stashin, NAL Resources Management Limited
- Mark Fitzgerald, PETRONAS Canada
- Michael Crothers, Shell Canada
- Pierre Gratton, Mining Association of Canada
- Rob Broen, Athabasca Oil Corp.
- Robert Armfield, Nexen Energy ULC
- Robert J. Peabody, Husky
- Shannon Joseph, Canadian Association of Petroleum Producers
- Steve Spence, Osum Oil Sands Corp.
- Sue Riddell Rose, Perpetual Energy Inc.
- Tim McMillan, Canadian Association of Petroleum Producers
- Timothy Egan, Canadian Gas Association
- Tomonori Ikeno, Japan Canada Oil Sands Limited
- Wendy Hanrahan, TC Energy Corp.
- Wes Jickling, Canada's Oil Sands Innovation Alliance

Associations:

- Advanced Biofuels Canada
- Canadian Gas Association
- Canada Green Building Council
- Canadian LNG Alliance
- Efficiency Canada
- National Aboriginal Forestry Association
- Petroleum Services Association of Canada
- Prospectors & Developers Association of Canada
- WaterPower Canada
- Women in Renewable Energy (WiRE)

Ministers and Deputy Ministers

Ministers

Considerable discussions were held with the Honourable Navdeep Bains, Minister of Innovation, Science and Industry.

Complementary discussions were also held with:

- The Honourable Chrystia Freeland, Deputy Prime Minister and Minister of Finance
- The Honourable Catherine McKenna, Minister of Infrastructure and Communities
- The Honourable François-Philippe Champagne, Minister of Foreign Affairs
- The Honourable Jean-Yves Duclos, President of the Treasury Board
- The Honourable Jonathan Wilkinson, Minister of Environment and Climate Change
- The Honourable Marc Garneau, Minister of Transport
- The Honourable Marie-Claude Bibeau, Minister of Agriculture and Agri-Food
- The Honourable Mary Ng, Minister of Small Business, Export Promotion and International Trade
- The Honourable Mélanie Joly, Minister of Economic Development and Official Languages
- The Honourable Pablo Rodriguez, Leader of the Government in the House of Commons
- The Honourable Seamus O'Regan, Minister of Natural Resources
- The Honourable Steven Guilbeault, Minister of Canadian Heritage
- The Honourable Bill Morneau, (Former) Minister of Finance